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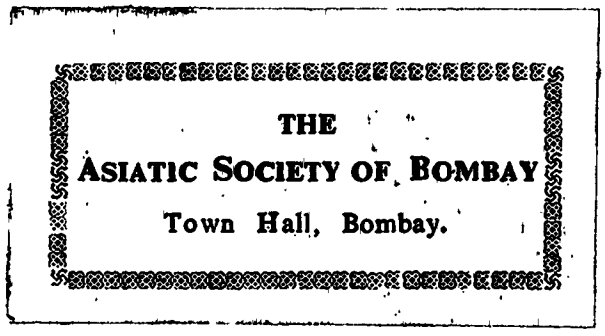

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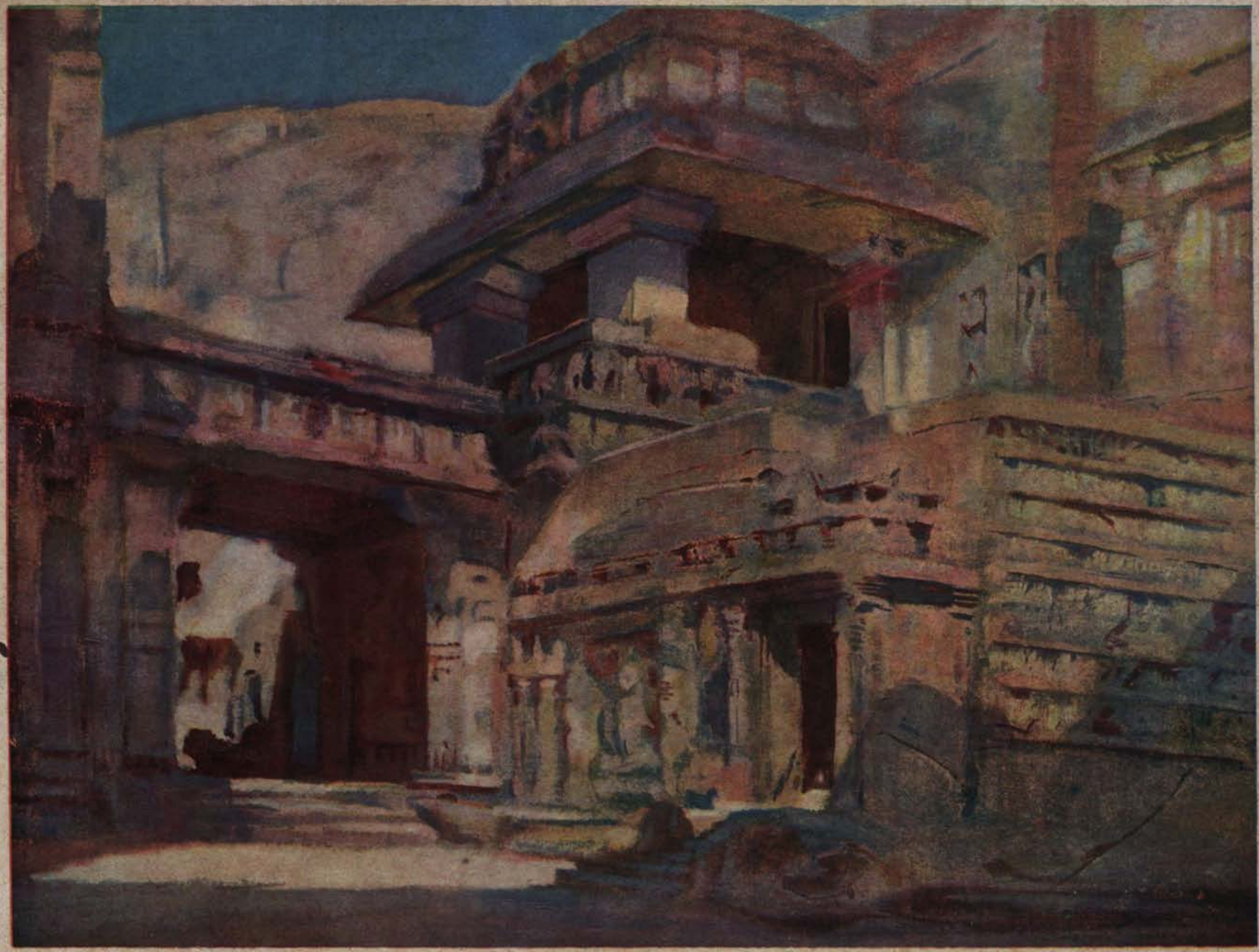

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THE

CYCLOPEDIA OF INDIA

Biographical—Historical—Administrative—
Commercial

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Vol. I

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FOREWORD.

IN ISSUING the first volume of the "CYCLOPEDIA OF INDIA," the Publishers feel that a word of explanation is necessary to define the scope of the work.

This, in the main, is frankly Biographical—for while a number of articles have been contributed by specialists, dealing with the history, the government, the institutions, the trade and commerce of India, it is not practicable, even if it were useful, for a private publication to endeavour to rival the completeness of the series of papers on these subjects which will appear in the many volumes of the new edition of the Imperial Gazetteer of India.

Biography again has been interpreted in its most liberal sense, and the volumes will include the record of the firms and institutions which play so large a part in the trading life of the Indian Empire.

In the first section, the present volume includes the first part of a History of India from the pen of a well-known authority on the subject, and a valuable essay on the history and organization of the Army in India by a Staff Officer, which is of special interest at a time when bold schemes of reform are being carried through. The work and growth of the great technical departments of the Telegraphs, and the Forest Service, are dealt with by officers of special experience and knowledge, while the Arts and Architecture of India have also been sympathetically treated. The great part which has been played by trading institutions in the development of India, is indicated by the articles on the history of the Chambers of Commerce of Bengal, Bombay, and Karachi. This section will be amplified and continued in succeeding volumes.

The Biographical section has been grouped under four main heads, for facility of reference,—Official, Professional, Educational, Commercial and Industrial; and the Biographies under each appear in alphabetical order. Having regard to the proverbially fleeting memory of the East for those who labour there,—in whatever circle their lot may be cast—the Publishers hope that these volumes, which have been put together with much labour and cost, will prove of both interest and value.

February, 1907.

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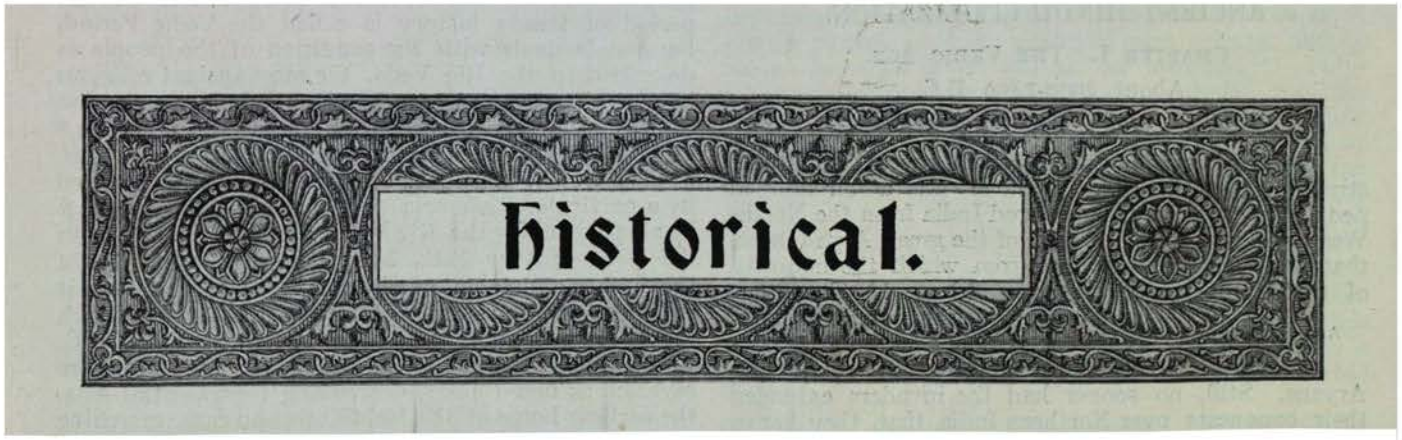

The History of India.

INTRODUCTION.

The history of India is not only important from the point of view of comparative civilization, but from its length and the variety of its vicissitudes, it may well lay claim to the appreciation of all intelligent readers for its own sake. Although India must yield to China, Egypt and Assyria in the antiquity of its historical data, yet its records extend back to a period of more than three thousand years, and its early literature is both more full and more valuable to humanity than that of any other ancient people. The early history of most peoples is a confused and broken account of wars and dynasties. Though some chronological sequence may exist, yet the greater number of those Kings whose conquests and glories are extolled in stone are little more than names, and the internal conditions of their kingdoms are still more obscure. No connected history, for instance, of ancient Egyptian civilization and thought is deducible from the monuments in the valley of the Nile. Egyptologists may decipher texts proving the political continuity of four thousand years and more, but the completed literary works from which alone continuity of thought and its gradual transitions from age to age may be established, are sadly deficient in quantity. But Indian history is of a different and a rarer kind. Inscriptions of the earlier periods are practically non-existent, and no connected chronological history is possible for at east the first thousand years of Aryan civilization in India. But, as a compensation, we have records of a far more valuable character. There exist literary remains which carry us back at least fifteen centuries before the Christian era. From this early date, and from each succeeding period, an abundance of literary works survive, at first handed down by oral tradition, later committed to writing, all bearing the stamp of the age in which they were composed, all therefore of supreme interest and importance as the reflection of the thoughts and feelings of early man. Amongst the Aryans of India alone can we trace clearly the gradual progress of the human mind from its first rude but spontaneous effusions to the artificial compositions of a highly organised civilization. Thus the story of Hindu civilization, religion and thought is longer and more instructive than any other human story. "It is matchless in its continuity, its fullness and its philosophic truth." It is a complete history in itself, but it is not the whole of Indian history. About the same time that the Normans conquered England the Ancient Hindu civilization began to come under the rule of Mohammedan invaders. Finally, the Mohammedan Empire, after a period of settlement by various European powers, gave place to the British rule which endures to-day. Each of these periods, the Mohammedan and the British, has its own particular characteristics and its own complete history.

PART I.

ANCIENT HINDU CIVILIZATION.

CHAPTER I. THE VEDIC AGE.

About 2000-1400 B.C.

I.—The Aryans and the Aborigines.

Our earliest glimpse of India reveals two races struggling for the soil. The one was a fair-skinned people, who had recently entered India from the North-West, and who were a branch of the great Aryan race, that Indo-European family from which the majority of the European peoples claim descent. The other race was of inferior type, indigenous and dark-skinned, held in the greatest contempt by the conquering Aryans. Still, no sooner had the invaders extended their conquests over Northern India than they began to mix with the primitive holders of the soil. From this fusion the great mass of the modern Hindu population is derived. Pure Aryans on the one side are now few in number, while the pure non-Aryan portion of the population is also comparatively small.

Arrival of Aryans in India.

A few words are here necessary by way of reference to the Aborigines of India. Some belong to the Dravidian race, others to the Mongolian, while the remainder are generally ranked together under the name of Kolarian. The Dravidians who now chiefly inhabit the South of India, were at the time of the Aryan immigration not only more numerous than the other aboriginals, but considerably in advance of them in point of civilization.

The aboriginal population.

They were not yet confined to the southern portion of the peninsula, but largely inhabited the plains and valleys of the north, where they lived in organized communities under fixed laws and government. The Kolarian and Mongolian elements inhabited rather the jungles and forests, and lived in a state of savagedom or semi-savagedom. The primitive state of the latter peoples at the time of the Aryan invasions can be imagined from a glimpse of the present condition of their descendants. Some of the existing hill-tribes, such as the Santals of Bengal and the Kandhs of Orissa, have only recently abandoned human sacrifices, while their system of rule is still essentially patriarchal. The Vedic hymns contain many references to the dark-skinned population which was in occupation of the soil. They are named Dasyus or 'enemies' and Dasas or 'slaves,' and are reviled as 'godless,' 'raw-eaters,' 'monsters' and 'demons.' The most savage of these peoples were probably driven back to the mountains, and it must have been the more advanced portion of the Aborigines, that is, chiefly the Dravidian element, which settled down under the new régime and at length became incorporated into the social organism of their conquerors.

The early history of India is concerned with the advance of the conquering Aryans, their gradual extension to the southernmost point of the Peninsula, and the foundation by them of a number of separate kingdoms. But the exact movements and their chronology are hard to trace, and we know more about the social and religious character of this early people than of their political history. The earliest period of Hindu history is called the Vedic Period, because it deals with the condition of the people as described in the Rig Veda, the most ancient religious book of the Aryan races. The Rig Veda is a collection of 1,017 short poems, chiefly addressed to the gods.* The whole is divided into ten Mandalas or Books, each of which, except the first and last, were composed by a particular Rishi or a particular school of Rishis.† In all probability the Rig Veda was finally compiled in the 14th century B.C., but the great majority of the hymns must have been composed earlier, and it is generally agreed that the period of history to which they belong cannot have begun later than 2000 B.C. In this, the first period of Indian history, the Aryans are revealed as new-comers, descending from Central Asia, the earliest home of the Indo-European race, marching through the passes of the north-west, and then gradually spreading themselves over the Punjab. Five or six centuries at least are necessary for the expansion of the Aryans along the Indus and its tributaries, so that the Vedic Age may roughly be dated from 2000 to 1400 B.C.‡

Advance of the Aryans.

Some few facts may be gathered about the progress of this early conquest. The Aryans were divided into a number of tribes, mostly organized on a monarchical basis and ruled by hereditary chieftains in conformity with the will of the people as expressed in the tribal assembly. These tribes were without cohesion, and were often arrayed in war against each other. Sometimes, however, a temporary confederation was formed for the special purpose of subduing the black-skinned holders of the soil. The Aborigines did not yield without a struggle, but when beaten in the open field by the more disciplined valour of the invaders, they clung to hill fortresses and forests whence they issued forth to wage a harassing guerilla warfare against the Aryans. But in spite of every resistance, the more civilized races with their war horses and chariots, their armour and the greater variety of their weapons, pushed back the hated foe, cultivated the jungle tracts and extended their kingdoms over the whole Punjab. The barbarians, like the Britons at the time of the Anglo-Saxon invasions, were either exterminated or retreated into those hills and fastnesses which their descendants still inhabit. The wide-spread fusion of race which we have already mentioned, took place, not in the Vedic Age, but in subsequent stages of the Aryan conquests, during what are called the Epic and the Rationalist Periods.

Their Organization.

Character of the early conquests.

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* They have been translated by Max Müller in his monumental Sacred Books of the East. The greatest Orientalists of the present generation have contributed to this series. Most of the remaining Vedas, the Brahmanas, Sutras, etc., to which we shall refer, can also be found in this series in an English garb. The introductions to the various volumes are extremely valuable.

† See page 3.

‡ Some recent writers would put it much further back. B. G. Tilak in his *Arctic Home in the Vedas* maintains that on grounds chiefly of astronomy many of the hymns must have been composed as early as 4500 B.C. Moreover, he discovers in them traces of a still more primitive civilization, the pre-Vedic, which, he asserts, flourished in the Arctic Region during the Post-glacial Period; *i.e.*, from 8000 B.C. onwards. But this bold theory, except in subordinate points, has not yet obtained acceptance.

II.—Social Life in the Vedic Age.

The picture of early Hindu civilization, as painted by the Vedic hymns, is full of interest. Agriculture, which philology proves to have been known to the early fathers of the Indo-European race in Central Asia, was the main industry of the ancient Hindus. The hymns contain numerous allusions to agriculture, and one remarkable hymn is directly dedicated to the God of Agriculture. But agriculture in the Punjab was not practicable without irrigation: hence we have references to canals and wells. Shepherds and pasture are mentioned less freely than agriculture, whilst trade and commerce, though necessarily rare in the early stages of civilization, are distinctly alluded to in the Rig Veda. The arts of peace included weaving, carpentry and working in metals such as gold, iron and copper. Warriors, perhaps the greater chieftains, wore golden helmets and breastplates; women carried bracelets, necklaces and anklets. The customs of the people are marked by strong common sense, and a pleasing absence of unhealthy restriction.

Arts and Industries.

The caste system did not exist and every head of a household was his own family priest. Although the exigencies of sacrifice and the special faculties of composition required for the sacrificial hymns, gradually led to the formation of a class of Rishis, holy priests and poets, the forerunners of the Brahmans, yet in the primitive age of the Rig Veda this class was separated by no barrier of caste from the rest of the population. The Rishis were men of the world, owned herds of cattle, fought against the common enemy, and intermarried freely with the people. It is only in the concluding portions of the Rig Veda that we find evidence of the growing superstition of the people and a beginning of that dependence upon the priestly class which was destined to work such irretrievable harm in the later stages of Hindu civilization. That the Rishis did not form a separate priestly caste may be gathered from such hymns as the following:—

Caste not yet formed.

"Behold, I am a composer of hymns, my father is a physician, my mother grinds corn on stone. We are all engaged in different occupations. As cows wander (in various directions) in the pasture-fields (for food), so we (in various occupations), worship thee, O Soma! for wealth. Flow thou for Indra!" Further, there were no temples or idols in these early days. The sacred fire was lighted on every hearth by the head of the family, and there is abundant evidence to prove that wives joined their husbands in celebrating these domestic sacrifices.

Women, it is clear, were regarded in a totally different manner from their sisters of a later time. They were not secluded, debarred from education and religion, or disposed of like chattels in marriage. They were treated rather as man's equal, the sharer of his sacrifices, joint composer of the sacred hymns—sometimes women even became Rishis—and were allowed to exercise their due influence in society. They were not married at an age when their education should just begin, but often remained unmarried in the homes of their fathers, or if they chose wedlock, as doubtless the majority did, they would seem to have possessed some voice in the selection of their husbands. "The woman who is of gentle nature, and of graceful form selects, among many, her own loved one as her husband." Polygamy was allowed among the great and rich, but the people for the most part remained contented, then as now, with one wife. The re-marriage of widows was distinctly sanctioned by the Rig Veda, and the prevalence of this custom is borne out by a variety of other proofs. Finally, the obnoxious practice of *Sati*, by which a widow ascended her husband's funeral pyre, was unknown in these primitive days. When in aftertimes the practice became popular, the priesthood attempted to give it sanction from the Vedas, and a harmless passage referring to a funeral procession was distorted and mistranslated with this end in view.

Position of Women.

Other practices, now generally condemned by orthodox Hinduism, were the consumption of flesh and of intoxicating liquor. Cows were the chief source of wealth to the primitive cultivators on the Indus, and one of their uses was to provide food. Slaughter-houses are spoken of in the Vedas, and there are allusions to the sacrifice of bulls and rams. The intoxicating juice of the Soma plant was regularly drunk by all classes, and as we shall see below, it formed a predominant element in sacrificial rites. So highly was it regarded, that it came itself to be worshipped as a deity, and we find an entire book of the Rig Veda dedicated to the Divine juice of the Soma.

Food and Drink.

A few other points connected with the social life of the early Hindus deserve notice. The dead were disposed of, as to-day, by burning, although burial without cremation seems to have been also practised. Some of the most beautiful of the hymns were composed for the funeral ceremony. Transmigration was as yet unknown and the primitive Hindu believed in a state of blessedness in the heaven of Yama, to which the righteous attained immediately after death. Other hymns seem to contain the germ of adoption, and of the later Hindu Law of Inheritance which allows property to go to the daughter's son, only in the absence of male issue.

Funeral and other customs.

III.—Religion of the Vedic Age.

We are now in a position to examine the religion of the primitive Hindus. The Rig Veda is immensely valuable as a human document, because it is the only record possessed by any Aryan nation,—indeed any nation at all—in which we can study that intensely interesting chapter in the history of mankind, the transition from a natural to an artificial religion. The Rig Veda may, therefore, be regarded as the earliest recorded chapter in the history of the human intellect. In the oldest books of the Greeks and Romans religion is almost totally artificial. Groups of gods and goddesses people an artificial heaven, and largely share human attributes, vices as well as virtues. "Names which in Homer

Value of the Rig Veda in the history of religious belief.

have become petrified and mythological, are to be found in the Veda, as it were, in a still fluid state." In the Veda natural phenomena are represented as assuming the character of divine beings, whereas in Homer this process is already complete. Hence, we may, apart from all considerations of actual date, call the Vedic hymns more ancient than the Homeric poems, because they represent an earlier phase of human thought and feeling. Though the religion of the Vedic Age is the worship of Nature, in her loftiest aspects of sky, dawn, sun and storm, yet towards the end of the Rig Veda, "we often come across hymns sung to the One Being. The landmarks between Nature-worship and Monotheism had been passed, and the great Rishis of the Rig Veda have passed from Nature up to Nature's God. This is the characteristic beauty of the Rig Veda as compared with other religious works of other nations. We do not find in the Veda any well-defined system of religion or any one particular stage of thought or civilization. On the contrary we watch with interest how the human mind travels from an almost childlike but sincere invocation of the rising sun or the beneficent sky to the sublimer idea that neither the sun nor the sky is the Deity—that the Deity is greater and higher than these, and has created these objects. We know of no other work in any language which possesses such interest for the philosophic enquirer into the progress of the human mind or which shows as the Rig Veda does show how human intelligence travels step by step, higher and higher, until from the created objects it grasps the sublime idea of the Creator."*

The gods of the Rig Veda.

Most prominent amongst the aspects of Nature which received the homage and worship of the early Hindus was the sky. But the sky has several aspects. It was first adored as Dyu, or Dyaushpitar, the 'Shining One,' earliest god of the great Aryan race, Zeus in Greece, Jupiter or Diespiter in Rome. Varuna, the sky which covers, the encompassing sky, the Ouranos of Greece, the Uranus of Rome, was another aspect of the heavens addressed as a deity in the Vedic hymns. Varuna was probably the dark sky of night, and in contradistinction to him there was Mitra, the bright sky of day. Of these three Varuna is the recipient of most adoration in the hymns: indeed, his sanctity in the Rig Veda is pre-eminent over that of every other god. Yet a further aspect of the sky remains to be noticed,—Indra, the Rain-god, literally the sky regarded as aqueous rain-bearing vapour. Though he yields to Varuna in sanctity, all the gods of the Vedas must give place to him in point of prominence. No god is addressed so frequently or so forcibly. He is peculiarly Indian, and his popularity can only be understood by those who know the life-giving power of the Indian rain-clouds after a time of heat and drought. Indra is not merely the giver of refreshing rain, but the champion of the Aryan people against the dark-skinned aborigines, the God of Battles, the Ares of the Vedic people. Next in popularity, perhaps, to Indra, is Agni, the God of Fire, the youngest of the gods, the Lord and Giver of Wealth. Fire was essential to sacrifices—hence Agni is called the Invoker of the gods. The worship of fire is one of the many points of kinship between the Aryans of the Punjab and those of Iran, the framers of the Zend Avesta. Other gods less prominently brought before us in the Veda are (1) Those which bear a solar character, *Sûrya* (= Helios and Sol) and *Savitri*, *Pushan*, and lastly *Vishnu*, so far purely a Sun-god and a deity of quite inferior note. (2) *Vâyu*, the air; (3) the *Maruts*, or Storm-gods, inspirers of terror, beneath whose thunder and lightning the earth trembles and the forest is torn in pieces; (4) *Rudra*, father of the Maruts, a third-rate deity but elevated in Puranik times to a position of the first rank under the name of Siva. (5) *Yama*, afterwards the dread King of Hell, but as yet the beneficent ruler of the blessed world where the departed live in endless felicity. (6) The twin *Aswins*, 'Lords of Lustre,' fleet horsemen of the dawn, physicians and healers, succourers of men in their distress. (7) *Ushas*, the Greek Eos and Latin Aurora, the smiling dawn, "who like a busy housewife wakes men from slumber and sends them to their work." Ushas, be it noticed, is a goddess. Only two female divinities are known to the Veda, the other being (8) *Saraswati*, goddess of the river of that name. Though all trace of the river and its course has long since disappeared, Saraswati survives as the Goddess of Speech. She is the oldest goddess of the Hindus: others such as Parvati and Lakshmi are creations of a later day.

The sky gods.

Indra, the most prominent.

Agni.

Minor deities.

Goddesses.

Other deities there were, bringing the total up to thirty-three, "who are eleven in heaven, eleven on earth, and eleven in glory in mid air." And yet it is sometimes difficult to decide whether the composers of the hymns were polytheists or monotheists. One god was worshipped at a time and for the moment was regarded as supreme. There are verses declaring each of the greater deities to be supreme, particularly Indra and Agni. For the time being the worshipper is practically a monotheist. More than this, some verses actually declare the existence of but One Divine Being, and recent scholarship is in favour of their antiquity. Such hymns must have been composed by the more spiritual of the singers, in whom there dwelt an instinctive Monotheism. The 121st hymn of the tenth book is the most notable instance in point. "In the beginning there arose the source of golden light. He was the only born Lord of all that is. He established the earth and the sky; Who is the God to whom we shall offer sacrifice? . . . He who through his power is the only king of the breathing and awakening world. He who governs all, man and beast; Who is the God to whom we shall offer our sacrifice? . . . He the creator of the earth; He the righteous, who created the heavens . . . He who is god above all Gods:" The monotheism of this hymn is as plainly asserted as by the Hebrew prophets of the Jewish dispensation. This tradition of belief was established in the Vedic Age, and found later expression in the priestly attitude

Conflicting tendencies towards monotheism and polytheism.

* Dutt.—"Civilization in Ancient India," Vol. I, Ch. VI.

of Brahmans, a monotheistic attitude, not however shared by the nation as a whole, which became more frankly polytheistic as time went on.

Lofty moral tone of Vedic Religion.

But whether the Aryan settlers be addressing one of their Nature gods, or hymning some ecstatic praise to the 'Lord of all that is,' the tone of the songs is elevated and forceful, and their character genuinely spontaneous. The presence of lofty moral and spiritual fervour in this ancient religion is incontrovertible; there is more faith and devotion, more genuine enthusiasm for the heavenly powers, than in any of the recorded works of the Greeks and the Romans. The 'shining ones' are believed to protect men, not only from disease and suffering, but also from the temptations of sin. Indra also is invoked as a god who may pardon sin. Besides moral truths, there are to be found, in certain hymns, philosophical and metaphysical conceptions worthy of the most highly civilized communities. In a famous song of the tenth book the poet makes a series of profound inquiries about the mysteries of creation, such as would have done credit to the age of the Upanishads. Accordingly we must not regard the Upanishads as the starting point of Hindu philosophy any more than the Brahmanas mark the beginnings of theology; the source of the philosophical, as of the theological, and indeed the scientific, currents of succeeding periods can be traced right back to the Rig Veda itself.

Chapter II. The Brahmanic or Epic Age. About 1400—800 B.C.

I.—History of the Period.

Extension of Aryan Conquests.

We have seen how that during the first or Vedic Age the Aryans gradually wrested the Punjab from its primitive inhabitants and occupied the whole tract of country watered by the Indus and its tributaries. In the second or Brahmanic period the conquerors crossed the Sutlej, settled in the Jumna and Ganges valleys, and within four or five centuries had founded powerful kingdoms as far east as Behar. Such are the conditions pictured in the Brahmanas and in the oldest parts of the national epics: hence the period is known as Brahmanic or Epic. That the conquests of the Hindus in this period did not extend beyond Behar nor south of the Vindyā Hills is made plain by the total absence of reference to those parts in the literature of the time. But to conquer, settle and organize into kingdoms the whole Gangetic valley, the great plain of Northern India, the 'Middle Land' of the old books, was no inconsiderable achievement. The immediate cause of this extension of the Aryan race beyond the boundaries attained in the Vedic Age seems to have been a second irruption of Aryans from beyond the Hindu Kush. Entering the Punjab through the passes of the north, the new-comers pushed their settled kinsmen eastwards,

New Aryan Immigration.

along the valleys of the Jumna and the Ganges. Many of the aboriginal people who had come to live peaceably side by side with the earlier Aryan settlers lent them assistance against the new-comers, and the partnership resulted no doubt in some slight fusion between the races. Ultimately also the newer Aryan immigrants coalesced with their forerunners, so that from the fusion of those three elements there arose a new Indo-Aryan race with a new and peculiar civilization, the Brahmanic. It was, however, only when the conquering Aryans had pushed eastward beyond Oudh and Allahabad that they seem to have incorporated non-Aryans in their own communities to any great extent, and even then the Aryan physical features, along with their language and religion, remained predominant. As they passed down the valleys of the Ganges and its tributaries, they encountered hordes of aborigines in various stages of barbarism or civilization. It was impossible to drive off these inhabitants in the way that the majority of the Punjab aborigines had been driven away. Since, moreover, the services of those despised people were useful, quantities of them were allowed to remain under the protection of their conquerors. They were given menial tasks to perform and as the social system of the Hindus developed, the indigenous population was absorbed into it, forming, as we shall shortly see, the great bulk of the lowest or Sudra caste.

The foundation of territorial kingdoms.

This evolution of this new Indo-Aryan people was accompanied by a growth in political organization. The small tribal communities of the Vedic Aryans in the Punjab were replaced by larger territorial states, some taking the form of republics, but the majority being ruled by great kings who resided in regular capitals. For the most part the popular assemblies of the Vedic Age had passed away, and Hindu monarchs arose who governed autocratically, their government being beneficial or otherwise according as their characters were good or bad, strong or weak. The first of the

The Kurus and Panchalas.

new kingdoms to be organized were those of the Kurus and Panchalas. The first people settled in the rich and fertile Doab between the Jumna and the Ganges, and the second group founded a confederate kingdom in the west of what are now the United Provinces of Agra and Oudh. Hastinapura was the capital of the first kingdom, Kanouj the chief capital of the second. Of the origin of both tribes, and from what part of the Punjab, if from any, they came, we must be content to remain in ignorance, nor is it possible to obtain a historical account of either kingdom. All that we know is that at some time, presumably towards the end of the Brahmanic period, the two nations engaged in an internecine war for the possession of a particular strip of country. This war forms the subject of the Iliad of India, the Mahabharata, the first great Hindu epic. The poem is of heterogeneous growth, contains much material of a later age, and was put together in its present state centuries after the earliest events which it describes. Not only were lengthy additions made to the poem in Puranik times, but even the geography of the country and the names of the heroes have been changed. Still the groundwork of the poem is genuinely ancient, and a discerning scholarship is able to discriminate between the original layer and the strata which were super-imposed in historic times.

The Mahabharata.

Besides the testimony which it affords of the existence of the kingdoms of the Kurus and Panchalas, and their bloody struggle, it is valuable historically for the sidelights it throws upon the state of Hindu society at the time. It reveals a more polished state of society, a more highly organized civilization, than any which existed in the previous age. Monarchy was more powerful and states were larger. The rules of social life were more highly developed, yet the caste system had barely taken root. The science of war was better organized, but the descendants of the fierce Aryan conquerors of the Punjab still retained the unconquerable valour and stern determination of their ancestors. The poem also illustrates an interesting point about the daily life and customs of those early days. The position of women had not yet become degraded to the subjection of later times; chivalrous instincts were to the fore, but such vices as gambling were indulged in to excess. Thus, although no accurate historical narrative can be deduced from the poem, the light it throws upon the character of the times is by no means to be despised.

Kingdom of the Kosalas.

In due course a series of powerful kingdoms were established further to the East. Chief of these were the kingdom of the Kosalas in Oudh, that of the Kasis round Benares, and that of the Videhas in North Behar. Of the struggles which led to the establishment of these kingdoms we know little, but a few facts about their internal condition may be gleaned from different sources. The kingdom of the Kasis achieved fame at a later time, but the sister kingdoms blossomed into greatness before the conclusion of the Epic Age. The country of the Kosalas with its historic capital of Ayodhya is brought into prominence by the second great Hindu Epic, the Ramayana, which celebrates the doings of a certain King of Kosala, that Rama who afterwards came to be worshipped as an incarnation of the God Vishnu.

The Ramayana.

The Ramayana makes no mention of Aryan civilization south of the Vindhyas, therefore it must have taken its original shape at a period anterior to the Aryan conquest of the peninsula proper, *i.e.*, before the beginning of the next or Rationalist period. In all probability it was originally composed about 1000 B. C., a period later than that to which we should assign the Mahabharata in its earliest form. But such countless changes and interpolations were made in a later age that the Ramayana is almost as valueless for direct historical purposes as the Mahabharata. Though, however, the heroes are myths, and many events are described which never took place, or which took place at a later time (*e.g.*, the Conquest of Ceylon), yet this poem also throws a certain amount of interesting sidelight upon the people and civilization of the Brahmanic, particularly the later Brahmanic age. The people had become more polished and law-abiding, but less sturdy and heroic. Priestly assumption was growing apace and a persistent rivalry between the claims of the priests and warriors was proceeding. The people, being less vigorous than those painted in the earlier Epic, were resigning themselves more completely to priestly domination; the simplicity of the old Vedic faith was being buried beneath a mass of rites and ceremonies, and religion was slowly becoming the monopoly of Brahmans.

Janaka, King of the Videhas.

The third of the group of kingdoms mentioned above, that of the Videhas, in its turn came to the front, and became the most prominent kingdom in Northern India. Janaka, its most famous king, has a high claim to the respect and the admiration of the historian. The father-in-law of Rama, his fame does not rest upon the somewhat shadowy allusions of the Ramayana, but he is a well authenticated character, who, according to the unimpeachable evidence of other records, became the patron of speculative and philosophic thought. The Vikramaditya of his time, he gathered round him the most learned men of contemporary Hindu civilization, encouraged those theological studies which resulted in the White Yajur Veda and the Satapatha Brahmana, the most important of all the Brahmanas, and himself originated those earnest speculations of the Upanishads which mark the close of the Epic Age. A reaction seems to have been already arising against religious pedantry and dogmatism. Healthy speculations about the nature of the soul and the Supreme Being were beginning to take the place of those arid and verbose commentaries on the minutiæ of religious rites, which had characterized the period now coming to an end, and King Janaka must receive all credit for being one of the originators of the emancipatory movement. It was in its essence an attempt to destroy the monopoly of priestly learning, and to loosen thereby the bonds of priestly domination.

Any other kingdoms that were founded in the Epic Period are little more than names. North Behar seems to have been the limit of Hindu civilization in the East, and the Vindya Mountains were throughout this period the southern limit. The rest of India was, if not absolutely unexplored, at least unconquered by the growing Indo-Aryan people. The literature of the time admittedly presupposes the limits we have assigned, and expansion beyond the area belongs to the ensuing or Rationalist Period.

II.—Literature of the Period.

As the civilization of the primitive or Vedic Age is known to us solely through the early Vedic hymns, so is the civilization of our second period revealed solely by contemporary literature. Without the works whose original compilation can be credibly assigned to the Epic or Brahmanic Age, the historian would be in total ignorance as to even the main features of the period. First of the literary productions of the time come the Vedas. The Rig Veda Sanhita, the collection of hymns composed mostly in the previous age, was only compiled, as we have already seen, about the beginning of this period (circ. 1400 B. C.), and even then was not put into writing, but handed down by oral tradition for another thousand years or so. Following upon the Rig Veda three other Vedas were compiled, the Sama Veda, the Yajur Veda (White and Black), and the Atharva Veda. As four different classes of priests combined to perform the

Final compilation of the Rig Veda.

sacrificial ceremonies, the simple hymns of the Rig Veda were soon found to be insufficient, and separate manuals had to be compiled for the assistance of the priests. Thus the Sama Veda is a collection of sacrificial chants extracted from the Rig Veda and set to music for that class of priests called Udgatris, whose main duty it was to accompany the sacrifices by singing. The compiler of the work is unknown to history.

The Sama Veda.

The Yajur Veda was a collection of sacrificial formulas, compiled for the assistance of the priests called Adhvaryus, who were entrusted with the material performance of the sacrifices. The other two classes of priests, whose presence was also necessary at every sacrifice, needed no manual. The Hotris simply had to recite hymns, and for this a knowledge of the Rig Veda was sufficient, while the Brahman needed no manual of his own, his function being to act as president, and superintend the whole ceremonial. Of the Yajur Veda there are two editions, known respectively as the Black and White. The Black Yajur Veda is unquestionably the oldest, but little accurate information is to hand about its compilation. Of the White Yajur Veda, however, more is known. It is ascribed to Yajnavalkya, a learned priest who worked under the patronage of King Janaka. The compilation is not, however, the work of one man, or even of one age; and all that can be said with certainty is that the first and more important part of it, eighteen chapters of formulas, was promulgated from the court of King Janaka towards the end of the Epic Period, or about the ninth century B.C.

The Yajur Veda.

Last comes the Atharva Veda. Although it includes a few hymns chosen from the Rig Veda,—chiefly the later ones—it principally consists of formulas intended to protect men from baneful influences, whether divine or human. It is full of spells for warding off evil, incantations against disease and imprecations against demons, sorcerers and enemies, and of charms to secure harmony and prosperity. Such spells bear the name of Mantras, and their inclusion in a sacred book is a proof of the decline of religion. The simplicity and manliness of the early Vedic creed must have long since passed away when such a compilation was in daily use. But there is good reason to suppose that the Atharva Veda, despite its claim to antiquity, was not compiled until long after the Epic Age. For centuries to come only three Vedas are recognised, and although fragments of incantations may have existed in this period, it is not likely that they were put together in their present form until a later time.

The Atharva Veda.

The next series of works to be noticed are the Brahmanas. The change of locality and political conditions which we have noticed in the first section of this chapter were accompanied by considerable changes in language and modes of thought. Hence the Vedic hymns were rapidly becoming unintelligible. The Brahmans therefore devoted themselves to a careful explanation of the text and wrote long prose commentaries, in which a number of passages illustrative of social and political conditions are mixed up with dry theological discussions and descriptions of ceremonial. Commentaries of this kind were written for each of the Vedas in turn, and at length each Veda was explained by two or three separate Brahmanas, compiled for the most part during this period, but not entirely free from later interpolations. The Brahmanas are generally regarded as dull and dreary, but they contain much curious information. Though their professed object is to teach the sacrifice (which can be better studied in the Sutras of the ensuing age) they devote a much larger space to dogmatical, exegetical, mystical and philosophical speculations than to the ceremonial itself. The fact of so many authors being quoted by name in these works shows that the Brahmanas exhibit the accumulated thoughts of a long succession of early theologians and philosophers. "But the very earliest of these sages follow a train of thought which gives clear evidence of a decaying religion. The Brahmanas presuppose . . . . . a complete break in the primitive tradition of the Aryan settlers in India. At the time when the law was laid down about the employment of certain hymns at certain parts of the sacrifice, the original meaning of these hymns and the true conception of the gods to whom they were addressed had been lost. The meaning also of the old and sacred customs by which their forefathers had hallowed the most critical epochs of life and the principal divisions of the year, had faded away from the memory of those whose lucubrations on the purport of the sacrifices have been elaborated in the Brahmanas." In other words, the transition from a natural worship to an artificial worship, which process forms the chief interest of the Vedic Period, had already been completed. But the pre-Buddhistic Hinduism which was now taking shape was accompanied by so much pedantry, well exemplified in the Brahmanas, that the change to the bold speculations and the more healthy scepticism of the Rationalist Age cannot have been but beneficial. The age of reason was, however, prefigured by certain works compiled in the Epic Age itself. These are the Aranyakas and the Upanishads. The Aranyakas or 'forest lectures,' were intended to be read by Brahmans when undergoing their period of asceticism as forest hermits—one of the four periods into which the life of a Brahman was now divided. Many of the Aranyakas form part of particular Brahmanas, and in all cases they presuppose the existence of the Brahmanas. The Upanishads are religious speculations contained in the Aranyakas, and any interest the latter have is derived from these Upanishads. The subject-matter of the Upanishads concerns the destiny of the soul and the nature of the Supreme Being, subjects that arose very naturally from the speculations of the Brahmans, although they paved the way for teaching of a character repugnant to the priesthood. The words of the great Vedic scholar, Max Müller, are worth quoting in this connection. "The philosophical chapters, well known under the name of Upanishads, are almost the only portion of Vedic literature which is extensively read to this day. They contain, or are supposed to contain, the highest authority on

The Brahmanas.

The Aranyakas and their Upanishads.

which the various systems of philosophy in India rest. Not only the Vedanta philosopher, who, by his very name, professes his faith in the ends and objects of the Veda, but the Sankhya, the Vaisesika, the Nyaya, and Yoga philosophers, all pretend to find in the Upanishads some warranty for their tenets, however antagonistic in their bearing. The same applies to the numerous sects that have existed, and still exist in India. Their founders, if they have any pretension to orthodoxy, invariably appeal to some passage in the Upanishads in order to substantiate their own reasonings. Now, it is true that in the Upanishads themselves there is so much freedom and breadth of thought that it is not difficult to find in them some authority for almost any shade of philosophical opinion. The Old Upanishads did not pretend to give more than 'guesses at truth,' and when, in course of time, they became invested with an inspired character, they allowed great latitude to those who professed to believe in them as revelation. Yet this was not sufficient for the rank growth of philosophical doctrines during the latter ages of Indian history; and when none of the ancient Upanishads could be found to suit the purpose, the founders of new sects had no scruple and no difficulty in composing new Upanishads of their own." The genuinely original Upanishads numbered ten, but new compositions were gradually added until the total has reached an aggregate of 200 or more. Although it is probable that the Upanishads were largely the work of Kshatriya writers who chafed under the pedantic scholasticism of the Brahmans, the names of their authors are unknown. This absence of accredited authorship was much in favour of their being regarded as Revelation, 'Sruti,' (things) 'heard from God,' and not merely 'Smriti,' (things) 'remembered.' The Vedas, the Brahmanas, with the Aranyakas and Upanishads, are all regarded by Hindus as revealed Scriptures, while the Sutras and the Puranas, which belong to the Rationalist and the Puranik ages respectively, are not ordinarily held to be divinely inspired. Such a division is in conformity with the practice observed in almost all religions. The earliest sacred books are invariably supposed to be in some way or another of superhuman origin, or at least to have been framed by divine inspiration. They are anterior to clearly recorded history, and the mystery incidental to their age invests them with the halo of divinity. Those of a later and a more historical period have, however, the character of more purely human documents. The time and circumstances of their origin are more clearly known, and they are accordingly not enveloped in that odour of sanctity which is the privilege of the mysterious and the antique. We are speaking, be it noticed, of purely religious books; such epics as the Mahabharata and the Ramayana, while equally, if not more, hazy in their origin than the early sacred books of the Hindus, yet on the whole appertain to secular literature, and have therefore no claim to be regarded as Revelation. The light they throw upon religion is great indeed, but in their original form at least, they were not primarily didactic or religious.

Sruti and Smriti: revelation and tradition.

III.—Caste.

The rise of the caste-system must be ascribed to the period we are now describing. Even in the Vedic Age the priesthood tended to become a special profession, although priestly families contained members of other professions, and although the priests themselves—the Rishis of the Rig Veda—often served in their own persons as warriors, and lived freely in the world amongst their kinsmen. This tendency to specialization became an accomplished fact in the Epic Age, as with the elaboration of religious ceremonial, the priesthood became more and more a special class, separated from the bulk of the people by their superior knowledge and sanctity. The knowledge required to adequately perform the now complicated ceremonial of the sacrifice rendered necessary the study of a life-time, particularly as in the absence of writing, the whole mass of religious lore had to be laboriously committed to memory. The priests themselves could be the only teachers, and whom would they be so likely to instruct as their own sons? Hence a growth of the hereditary principle amongst the priesthood, and the idea, gradually developed, that the Brahmans—who being the superior class of priests gave their name to the priesthood as a whole—were a distinct and a superior race. At the same time there appears in the newly formed territorial states of the Gangetic valley a new warlike nobility, the cream of the fighting Aryan race, who assumed the name of Kshatriyas. The priesthood and the warrior class for a long time formed together the great ruling class. The King was a Kshatriya and the priest and nobles served him in their different capacities. As this class-formation became more rigid, the name Vaisya (settler), at one time applied to the whole Aryan race, was appropriated by the great body of the Aryan people, chiefly free peasants and merchants. A fourth class was then formed to include all non-Aryans and the descendants of mixed marriages between members of the Aryan and non-Aryan races. This fourth division of the people was known as the Sudra caste. The Sudras were mostly artisans and labourers, performing menial services, and they occupied the lowest scale of the social ladder. The gulf between the three Aryan castes and the Sudras was the greatest gulf of all: in fact, in some districts—such as Lower Bengal after its conquest and settlement in the next Age—the great division between the Aryan classes and the detested aborigines was practically the only division for quite a long period of history. This gulf between the races was expressed by giving to the three Aryan castes the appellation of 'Twice-Born' and to the Sudras the opprobrious term of 'Once-born.'

Growth of a Priestly caste.

And of a separate Warrior caste.

The Vaisyas form the remainder of the Aryan Community.

The Sudras chiefly of non-Aryan race.

The fourfold division of castes which we have enumerated, that division which the Laws of Manu regard as primitive and fundamental, was only rigidly carried out in the great Middle-land, that tract of Northern India where flourished

The fourfold division limited in its application.

the Gangetic kingdoms of the Epic Age. By the time that the Hindu civilization spread southwards, a variety of new castes had been added and the old fourfold division was soon forgotten, even where it had formerly existed. Enough has been said to show that the basis of caste division was mainly racial and professional. The first three castes were distinguished from each other by profession, and all three were at first distinguished from the lowest caste by race. With the progress of Hinduism, the principle of caste division as a method of social organization became more rigid; birth became the supreme test, and the multiplication of professions resulted in a multiplication of castes, the members of each being sternly prohibited from changing either the one or the other. But this pernicious system was the growth of future times: at present caste was a new principle and as yet hardly an evil principle. What marked the Epic Age was simply a division of the people into a few main groups according to their prevailing occupations. The same mild class division existed in most of the kingdoms of mediæval Europe. "In the Epic Period the body of the people (except the priests and soldiers) still formed one united Vaisya caste, and had not been disunited into miserably divided communities as at the present day. The body of the people were still entitled to religious knowledge and learning, and to perform religious rites for themselves, just like Brahmans and Kshatriyas. And even intermarriage between Brahmans, Kshatriyas and Vaisyas was allowed under certain restrictions. However much, therefore, we may deplore the commencement of the caste system, we should never forget that the worst results of that system, *the priestly monopoly of learning, the disunion in the body of the people, and the absolute social separation among castes*, were unknown in India until the Puranik times." Much interesting information bearing on this matter may be gleaned from the literature of the period. Thus the White Yajur Veda enumerates a number of professions followed by the body of the people, Vaisyas and Sudras; but as yet these professions did not form distinct castes, and the members of each were not separated from each other by rigid caste barriers. The upper classes, priests and warriors, enjoyed some special caste privileges, such as exemption from taxation, but they were not yet separated from the main body of their fellow citizens by an insurmountable wall of caste superiority. Brahmans, Kshatriyas, and Vaisyas ate and drank together, intermarried, and received the same religious instruction, all possessed the right of sacrifice and all alike wore the Yajnopavita or sacred thread, which came into use during the Epic Period. A passage in one of the Brahmanas shows that persons born in one caste or community might enter into another. Another shows that men not born Brahmans might become Brahmans by their reputation and their learning. And although the Sudra does not seem to have been admitted to sacrifice, yet in one of the Upanishads we find a Brahman imparting knowledge to a Sudra, accepting presents from him, and taking his daughter to wife. Such a tolerant interpretation of caste privileges would have been absolutely impossible a few centuries later, when the hereditary principle had once become inexorable.

The pernicious caste system of later times as yet unknown.

In the Epic Age caste barriers were often ignored in practice.

IV.—Social Life, &c.

Socially, the chief difference between the Vedic and the Epic Periods is the greater refinement and culture which characterises the latter. The rough warrior settlers of the Punjab had changed into the cultured citizens of prosperous kingdoms. The royal courts were thriving centres of learning and the kings themselves its patrons. Such a king as Janaka encouraged public discussions on religion and philosophy, and gathered round him the wise men of all the neighbouring kingdoms. The reign of law and order had begun; executive and judicial officers maintained order and administered the law. Walled towns were springing up on all sides, and wealth was rapidly increasing. "The wealth of rich men consisted in gold and silver, and jewels, in cars, horses, cows, mules, and slaves, in houses and fertile fields, and even in elephants." Gold, silver and other metals were in constant use.

Growth of Refinement.

What, however, is of the greatest interest in a study of early Hindu civilization, is social organization and the points in which the men of ancient time differed from their descendants of later centuries. The chief social feature of this age is of course the rise of caste, a subject of such importance that it has claimed a special section for itself. Hardly a less interesting subject is the position of women. Here the customs of the Epic Period show but slight change from those which marked the Vedic Age. The absolute seclusion of women was still unknown. The Brahmanas contain many passages showing the high esteem in which women were still held. They were considered as the intellectual companions of their husbands, as their helpers in the journey of life and the partners of their religious duties. They moved freely in society, frequented public festivities and sights, inherited and possessed property, and often distinguished themselves in science and in learning. The status of woman in these early times does not compare badly with that of her sisters in early Greece and Rome, and it was not until the religion of the Hindus became debased in form, until their society lost its freedom and elasticity in Puranik and Mohammedan times, that the position of women was degraded to a lower level. Conformably with the high esteem in which women were held, marriage was not regarded from such a one-sided point of view as it afterwards came to be. child marriage was unknown, women in the upper classes at least had some share in the choice of husbands, and widow remarriage had the distinct sanction of the sacred books.

Position of Women.

When speaking of the social constitution of the Vedic Age, we remarked upon the prevalence of flesh-eating. This custom still continued in the Epic Period, when animal food, along with various kinds of grains, formed the staple diet of the people. In view of the claims of modern vegetarianism, it would be interesting,

Flesh Eating.

although of course fruitless, to enquire whether man for man the Hindus of to-day are physically as strong as their flesh-eating ancestors.

We conclude this section with a striking picture, given by Dutt, in his "Civilization in Ancient India," of life such as it was lived by the citizen of Hastinapura or Ayodhya three thousand years ago. The account is of course based upon contemporary literature. "The towns were surrounded by walls, beautified by edifices, and laid out in spacious streets—which would not bear comparison with the structures and roads of modern days—but were probably the finest of their kind in ancient times. The King's palace was always the centre of the town, and was frequented by boisterous barons and a rude soldiery as well as by holy saints and learned priests. The people flocked to the palace on every great occasion, loved, respected, and worshipped the king, and had no higher faith than loyalty to the king. Householders and citizens had their possessions and wealth in gold, silver and jewels, in cars, horses, mules, and slaves, and in the fields surrounding the town. They kept the sacred fire in every respectable household, honoured guests lived according to the law of the land, offered sacrifices with the help of the Brahmans, and honoured knowledge. Every Aryan boy was sent to his school at an early age. Brahmans and Kshatriyas and Vaisyas were educated together, learnt the same lessons and the same religion, returned home, married and settled down as householders. Priests and soldiers were a portion of the people, intermarried with the people, and ate and drank with the people. Various classes of manufacturers supplied the various wants of a civilized society, and followed their ancestral professions from generation to generation, but were not cut up into separate castes. Agriculturists lived with their herds and their ploughs around each town: while holy saints and men of learning sometimes lived away in forests to add, day by day, to that knowledge which was the most cherished heritage of the Aryans."

A Picture of Society in the Epic Period.

V.—Religion and Learning.

By the close of the Brahmanic Period a new religion had completely replaced the old. The central feature of the change was the vast additional importance given to sacrifice and purification. In the Vedic Age sacrifice was a natural and spontaneous mode of expressing pious worship and adoration. But in the period to which the Brahmanas belong sacrifice is elaborated for its own sake: the sacrificial ceremonies assume an abnormal importance and become absurdly complex. The vanities of sacrifice were now numbered by hundreds and yet the most rigid adherence to set forms of word and movement was required from the priests. "Every sacrifice, every act, every movement is laid down and described in the Brahmanas, and no departure is allowed." It is plain that superstition was increasing and veneration of the sacrificial ceremonies themselves was replacing veneration of the gods.

Growth of Sacrificial Ceremonial.

Meanwhile the alteration in the conditions of national life, together with the growth of the priesthood, was responsible for changes of belief. The Brahmans found in Brahmanaspati, "the Lord of Prayer," a special god for their order. Then, by a further step Brahma, the Sacred Being, was evolved and became the highest divine power. Thus we have a deity whose basis is no longer one of the phenomena of nature, but a Being of a more spiritual character than any of the original Vedic gods. And yet, despite the growing reverence for Brahma, monotheism did not for the people at large take the place of polytheism. The old Vedic gods survived, although with inferior prestige and power, and as time went on, the popular religion embraced quantities of new gods, many of them derived from the aboriginal population, until in the Puranik Age the Hindu gods came to be numbered by millions!

Changes of belief. (i) Evolution by the priesthood of more spiritual conceptions of the deity. (ii) Growth of popular theology.

The position the old gods held in the new system was practically that of satellites to Brahma. Invocation and sacrifice to them was retained, but their character and attributes had undergone change. The doctrine of transmigration was coming into prominence, and the heaven of Indra was substituted for that of Yama. But souls were only regarded as abiding for a short period previous to regeneration in this heavenly abode. It is difficult to reconcile the emphasis laid by the Brahmans upon the minutiæ of ceremonial with progress in higher theology. The evolution of the conceptions of Brahman and Atman, the world-soul, seems wholly incompatible with the growing crudities of the popular faith and the endless and trivial ritual by which it was being supported. We must, however, suppose that the Brahmanic priesthood recognized the lower ideals of the people and distinctly catered for them without purposely seeking to raise their own position and prestige thereby; the imputation of interested motives to actors on the stage 3,000 years ago is always perilous. Nor is there reason to doubt the sanctity and honourable intentions of the priesthood as early as the Epic Age. They had achieved their position by superior merit, and being the brain-power of the people were entitled to leadership in matters intellectual and spiritual. This position involved abnegation of earthly pomp. The Brahmans, in order to retain spiritual pre-eminence, gave up all claim to sovereignty. No Brahman could be a king, nor for the present did they rise above a position of equality with the great Kshatriya caste. Again, there is no doubt that the Brahmans at this time practised temperance and self-denial in their lives. Asceticism was gaining ground, and the four-fold division of a Brahman's life, now beginning to be observed, included a period of total severance from the world, during which the desires of the body could be completely curbed and the soul left free to attain perfection by intense contemplation.

The Brahmans, by merit and position, the natural leaders of the people.

Besides setting an example of unworldliness and religious sanctity, the Brahmanic priesthood deserved due praise for the services it rendered to the cause of learning. Learning in ancient India was invariably connected with religion. Literary culture naturally grew up first among the Brahmans, as it was their duty

to preserve and hand down the sacred books which formed the chief literature of primitive Hindu civilization. Thus it naturally fell to the Brahmans to collect and arrange the early Vedic hymns. Next, the development of ceremonial, as has been noticed above, led to the compilation of further Vedas. Finally, the change from the old religion to the new was responsible for the copious commentaries, called Brahmanas, which the priests of the Epic Age composed to explain the old, and to harmonise the old with the new. Though the Kshatriyas deserve commendation for their share in the bold speculations of the Upanishads, it must have been the Brahman speculations on the nature of the Deity which made these studies possible. In the case of the two great epics also, just as they were completed in after years by Brahman intellects, so their origin may probably be attributed to Brahman art in the Epic Age. Respect for Brahmans is, for instance, inculcated in the Mahabharata, and instances can be quoted from the poem, of warriors being punished for not showing proper respect to priests. To this age also belongs the beginning of astronomy as a regular study. The Rig Veda contains traces of only the most elementary astronomical observations, but the literature of the Epic Period indicates a considerable progress in this science. The Lunar Zodiac was arranged about this time, and must have been the work of the Brahmans, inasmuch as astronomy was studied, not for its own sake, but for its importance in regulating sacrifices and religious rites. The sciences of Logic, Etymology, Numbers, and Prosody, amongst others, are mentioned by a writer of the period, and it is not too much to believe that a beginning was already being made in all those branches of learning which were destined to reach such a high level in the civilization of ensuing centuries. Of all this learning the Brahmans were the head and soul; and whether they wrote and taught at the courts of kings, at the regular Brahmanic settlements for higher education—the Parishads, or in the sylvan retreats where learned priests gathered eager students round them, equally in all cases they justified by results the high position they had obtained in the social system. The value of classes, and of institutions, must not be judged by their feebleness when in decline, and just as the mediæval priesthood performed invaluable services in Europe before other classes became enlightened, so the Brahmans served ancient Hindu civilization well by performing functions which no other class was yet capable of performing. Above all, they must be credited with having lit the lamp of learning in India at a time when the West was still in barbarism and darkness, ages before the birth of Greek civilization or the foundation of Imperial Rome.

Progress of learning.

Chapter III. The Sutra or Rationalist Age, 800-327 B.C.

That epoch of Hindu History which succeeded the Epic or Brahmanic Period is generally known as the Sutra Period or the Rationalist Age. While there can be little doubt that the special characteristics which mark it off from its predecessor became prominent about 800 B.C., there is less consensus of opinion about the later limit of the period. Buddhism arose in the 6th century B.C., but did not become the supreme religion in India until the reign of Asoka in the 3rd century. The Buddhist Period proper may then with reason be dated from the 3rd century B.C. and not before. But while the characteristics of the Rationalist Age no doubt survived until the great 3rd century expansion of Buddhism, another important consideration intervenes to demand a break in the 4th century B.C. This consideration is the fact that what may be called the Historical Period proper begins with the growth of Magadha and the invasion of Alexander in the 4th century. Isolated dates may no doubt be ascribed with certainty to an earlier period, but it is only from about the time of Alexander that a historical narrative of any community becomes possible. Hence it will be most convenient to conclude our account of the Sutra Period on the eve of Alexander's invasion, and afterwards to preface the history of the Buddhist Age by a brief narrative of Alexander's meteoric descent on India.

Limits of the period.

I.—Characteristics of the Sutra Period.

The most striking characteristics of the period are expansion and enterprise, together with the assiduous cultivation of reason and utility. The Aryan colonists now penetrated into the remotest parts of India, and carried Hindu civilization to the very south of the peninsula. The enterprise which prompted this expansion showed itself also in the more enduring conquest of literature. The verbose and pedantic works of the last epoch were now condensed into serviceable manuals, and the Sutras thus composed testify to the practical sense, the utilitarian bias, of the age. A number of sciences, old and new, were eagerly studied and works written to elucidate them. Grammar was raised to the position of an independent science. Systems of philosophy were elaborated which had the greatest influence upon Indian religion and thought. Finally there arose on the soil of India that noble faith of Gautama Buddha, which, though of slow and insignificant growth at first, was yet destined a few centuries later to be eagerly welcomed throughout the East, until it became the religion of a third of the human race. Colonization and conquest, the extension of Aryan civilization in India together with great literary enterprise and far-reaching religious changes; these are the keynotes of the period, and they mark it out as one of the most brilliant in the long roll of Hindu history.

II.—Political Features of the Period.
Hindu Expansion.

Before the end of the Epic Period the Hindus had, as we have seen, conquered and settled the expanse of country stretching from about Delhi to North Behar. While there can be found in the Brahmanas and other literature of the time stray notices of more remote lands, Southern Behar, Malwa and Gujerat, yet the number of Hindu adventurers and colonists who penetrated to these non-Aryan districts can have been but small, and Hindu civilization in the Epic Age was practically confined to the great Aryavarta of the North, that tract extending from the Doab to

Behar, conquered, and in the main peopled, by the Aryan invaders. But in the Sutra Period, the Hindu conquests rolled on and spread the circle of Aryan civilization wider and wider, until by the beginning of the Buddhist Period the greater part of India proper had come under Aryan rule or influence. A complete and connected account of these events is, of course, impossible, owing to deficiency of records, but contemporary literature and the observation of foreigners supply us from time to time with interesting pieces of information. Thus in a 6th century work of Baudhayana, India is divided into three portions—(1) Aryavarta, the true home of the Aryans and the most highly esteemed part of India. (2) Most of the Punjab,* Sindh, Gujerat, Malwa and the Deccan, with South and East Behar. The people of these districts were of mixed origin by the fusion of Aryans with aborigines. (3) The least esteemed part of India, comprising Orissa, part of Bengal, some of the Punjab, and most of Southern India. These three grades probably denote three different stages of the Hinduizing processes. The passage affords striking testimony to the rapid expansion of Aryan civilization which had taken place after the close of the Epic Period. Coming to the fifth century we find a powerful Andhra kingdom occupying the Deccan as far south as the River Krishna. It was about this time that Herodotus wrote his monumental history, in the third book of which he testifies to the greatness of the Hindu peoples, and their flourishing condition. From other sources it seems certain that the whole of Southern India had been Hinduized by the 4th century at least, and the three kingdoms of the Cholas, Cheras and Pandyas already founded. The conquest of Ceylon, although its authentic date is hidden beneath a mass of legend, cannot have taken place much later than this. Thus before the conclusion of the Rationalist Age a complete chain of Hindu or Hinduized States was spread over the Peninsula from its northern to its southern limits. It must not, however, be supposed that this expansion took the same form as the conquest of the Gangetic basin several hundreds of years before. The present process was not so much a conquest by the sword or a ubiquitous settlement of Aryans, as a gradual and peaceful Hinduizing of the tribes that peopled the Peninsula. "It was a social rather than an ethnical revolution. The aborigines were not hunted down and slaughtered wholesale, or even dispossessed of their land, but, coming under the influence of a stronger race, they learned to adopt its civilization and religion." Particularly was this so in the south and centre of India. The Dravidian races who inhabited these parts had attained a considerable civilization of their own, and were living in towns according to a settled form of government. What happened then was a conflict of civilization, and the triumph of the Aryan, the stronger civilization of the two. But in many parts the population remained almost entirely Dravidian, and retained their own special languages (as they still do in Southern India) along with much of their own religious belief. Sanskrit never took the place of the Dravidian languages of the south, nor did the Hindu religious system take a really firm hold of Southern India until after Buddhist times. And it is easy to see that before this was accomplished the contact of the Hindu with the aboriginal faith had resulted in the adoption by Hinduism of many non-Aryan deities, superstitions, and forms of ritual.

Expansion of Hindus towards the south.

Character of their expansion.

* The Punjab should properly belong to Aryavarta, but the earliest home of the Aryans in India seems to have fallen so behindhand in the national development, that it came to be lowly esteemed by orthodox Hindus.

While the processes at work in the newly Hinduized countries south of the Vindyas can only be thus roughly outlined, we are fortunately able to picture more accurately the political condition of the Hindu peoples in Aryavarta, particularly in the later years of the period. Little can be learnt about the more important kingdoms during the early Sutra Period, but when the curtain rises in the 7th century, considerable changes in the States-system are found to have taken place since the close of the Epic Age. The northern plain and the north-west of India from Gandhara (near Peshawar) to Ujjain in Malwa was occupied by sixteen great countries, either monarchies or tribal republics.

Political condition of Aryavarta.

The chief monarchies were :—

(1) Magadha, the modern Behar, a country only slightly colonized in the Epic Age, but now gradually obtaining paramount power. Rajagriha was the early, Pataliputra the later, capital of this kingdom.

(2) Kosala, with which we have already become acquainted in the last period.

(3) The kingdom of the Vamsas or Vatsas, south of Kosala. Its capital was Kosambi on the Jumna.

(4) Avanti, still further to the south, in the modern Rajputana, with Ujjain as its capital.

Prominent kingdoms in the 7th century.

Among the twelve other States which complete the list, there figure certain names with which we are already familiar—the Kasis, soon about to lose their power and independence, the Kurus and Panchalas, sadly diminished in importance since the Epic Days, and the Videhas, now one of the eight confederate clans of the Vajjians, but formerly the important kingdom of Janaka, the scholar and philosopher. This Vajjian confederation is important because it included the powerful Lichchavi clan, whose chiefs, now about to be related in marriage to the kings of Magadha, were destined to be ancestors of the kings of Nepal, of the Mauryas and of the great Gupta dynasty. Its capital, Vesali, situated somewhere in Tirhut, was at this time a great and flourishing place.

From about the year 600 B.C. a considerable amount of information about Magadha, Anga, Kosala, Kasi, and Vesali is supplied by the Jain, Buddhist and Brahmanical books combined, while the rest of the country is left in almost total darkness. Kosala had now incorporated the ancient kingdom of the Kasis, and was regarded as the premier State of India, a position which, however, it soon yielded to Magadha. The early lists

Growth of Magadha.

of kings in the case of Magadha alone can claim any historical reality. The first Magadhan monarch of whom anything important is known is Bimbasara, the fifth of the Saisunaga line. He is credited with the annexation of Anga, a small kingdom on the eastern frontier of Magadha, and he may with reason be regarded as the founder of the Magadhan Imperial power. During his reign Gautama Buddha seems to have preached in Magadha, but the saint must have died shortly after the accession of Ajatasatru, Bimbasara's son and successor. Ajatasatru has been handed down to history as a parricide, whose impatience to occupy the throne prompted the murder of his father. This may or may not be true, but certain notable events stand out clearly from a mass of legend to give his reign a considerable importance. A long war took place with Kosala, and the probability is that the ancient kingdom of Rama was shortly afterwards incorporated in the growing Magadhan Empire. Vesali, the country of the Lichchavi clan, was also conquered, and the whole region between the Ganges and the Himalayas seems to have become subject to Magadha. The victorious king then erected at Patali on the Ganges a fortress, which in the time of his descendants became the capital of a great Indian Empire under the name of Pataliputra. It was during the reign of Ajatasatru and his father that Darius Hystaspes extended the Persian Empire into India, and made of the Punjab and Sindh a separate satrapy. He was, after the original Aryan immigrants, the first of that series of invaders who descended upon the plains of India from the mountainous passes of the North-West. Whether the Persian Empire of Darius extended at all beyond the Indus we do not know; but in the absence of notice to that effect it is reasonable to conclude that the great river of the Punjab was now—as it nominally was when Alexander invaded the country—the boundary between the Persian Empire and the Native States of India. Ajatasatru's successors of the Saisunaga dynasty are nothing more than names. They held the throne for about a hundred years from his death, until the kingdom was usurped by the Nanda dynasty. From amid the unintelligible and conflicting accounts of this dynasty, two facts stand out fairly prominently, namely, that the new ruling family was of base origin, and that it retained the throne for two generations only, or about forty years. Thus, when Alexander invaded India in 327 B.C., a Nanda king must have been reigning at Magadha, and the unpopularity of his house accounts for the accession of the Maurya dynasty in 321 B.C., the first really reliable date in the political history of these Hindu kingdoms. But the invasion of Alexander and the rise of Chandra Gupta Maurya to a position of Imperial power belong to the following period. Henceforth Indian history ceases for a while to turn upon a few stray and unreliable names and dates, so that it is possible for the first time to write a connected narrative of events.

The Saisunaga Line.

Bimbasara circ. 519-491 B.C.

Ajatasatru circ. 491-459 B.C.

Nanda dynasty circ. 360-321 B.C.

III. Administration and Law. Social and Economic Conditions.

Although the system of administration pursued in the Rationalist Period is not known to us with the same minuteness as the highly-organized government of Chandra Gupta, so well described by Megasthenes, yet the Sutras are not barren of information on the subject. It must be premised that the passages refer to the States of Northern India only, those representing the typical civilization of the age. The main duty of a king, in one passage, is said to be to protect his subjects against thieves. In another, "the particular duty of a king is to protect all beings: by fulfilling it he obtains success." He is to punish evil-doers, to protect cultivation, and to secure his subjects against falsification of weights and measures. The king is required not to confiscate the people's property for his own use beyond a sixth part of their income by way of taxation. Gautama, among the earliest of the Sutra writers, gives a list of the taxes customary in a Hindu State of the time. The land paid from $\frac{1}{10}$th to $\frac{1}{6}$th part of the produce, a property tax was levied on cattle and gold, one of less value on roots, fruits, flowers, herbs, honey, meat, grass and fire-wood, and an excise duty of 20% *ad valorem* on the sale of merchandise. A parallel to the most common of European feudal obligations can be found in the kingly privilege of exacting one day's work a month from all citizens, while the exemption of Brahmans from taxation calls to mind one of the most invidious prerogatives of mediæval feudalism.

Administration.

Taxation.

In spite of the apparently high rate of taxation, the royal hand does not seem to have lain heavily upon the people. It is distinctly stated by Vasishtha and Baudhayana that the king must exempt from taxation any classes who are unable to pay. Again the flourishing condition of India in the following period, as painted by Megasthenes, must have been of gradual growth through the Rationalist Period, and not the result of any sudden amelioration under the Maurya kings. The Buddhist sacred books allude to a great number of different professions, and speak of the more important trades as protecting themselves by guilds. There seems to have been a considerable demand for costly and delicate art work in metals, ivory and leather, and merchants carried on a brisk trade through the medium of the current copper coins and also of promissory notes. Although few men besides the kings were really wealthy, yet there is no evidence of want amongst the people. A free man who had to work for hire is regarded as exceptionally unfortunate, and there was always plenty of fresh land to be had, at the mere labour of clearing it.

Economic condition.

The most striking point about the criminal law of the time, as revealed in the Sutra literature, is the invidious distinction observed between castes as regards punishment for crimes. "There was one law for the Brahman, another for the Sudra; the former was treated with undue leniency; the latter with excessive and cruel severity." Both in major and minor offences this distinction held true. Amongst the most heinous crimes were adultery, murder (except when a

Law.

Sudra was murdered by a Brahman), theft, especially theft of land, false evidence, more especially false evidence in respect of land, and suicide. Punishments for criminal offences varied with the status of the criminal, from the fine of a few cows to death. Fines and banishment were the commonest forms of punishment, but the king could exercise in his own person the prerogative of mercy. The Civil Law, especially that relating to property, is very full and just, but it can hardly claim treatment in a brief survey of this nature. It is interesting, however, to notice that the rate of interest is now being legally fixed for the first time. In the case of a loan given on security, the interest works out at about 15%. and the principal could only be doubled; but articles such as animals, wool and the produce of a field, apparently lent without security, often mounted up to fivefold the value of the object lent. The most important part of the Hindu Civil Law in ancient as in modern times was that relating to Inheritance, and here the writings of Gautama and his successors are very explicit. The custom of appointing a childless widow or an unmarried daughter to raise issue in the absence of male heirs is sanctioned in a majority of passages. The necessity of having a son to keep the fire alight on the domestic hearth was responsible for a number of other modes of acquiring heirs—*e.g.*, adoption and the purchase of a son. The whole treatment of the intricate subject of inheritance is most practical and methodical. The Rationalist Age is the period of fixed rules and carefully codified bodies of law, which compare most favourably with the verbose and discursive treatises of the Brahmanic Age.

This love of method and system which marked the period resulted along with unquestionable advantages in the unfortunate tightening of caste bands. Caste became less pliable and more rigid than in the Epic Period. It was no longer possible for Kshatriyas and Vaisiyas to enter the priestly caste: birth was henceforward the only key to unlock the portals of the priesthood. Still the lines of demarcation were not so fast drawn as in the late Hindu period, for the supremacy of the Brahmanic priesthood was not yet so unquestioned. The Jataka Book* of which the subject-matter is in the main pre-Buddhist, contains instances of Kshatriyas, even princes, turning traders or artisans, of Brahmans eating with Kshatriyas, and unions between men and women of all degrees of social importance. None the less it is certain that this was the exception rather than the rule. Stringent regulations were in practice to enforce the hereditary principle, and the offspring of mixed marriages sank to the level of a lower caste. Particularly was this the case when a woman of an upper caste stooped to marry a Sudra. The Sudras were still cut off from the religious privileges of Hinduism, but on the other hand some credit must be allowed the Rationalist Age because the religious rights of the two lower Aryan castes were not yet so curtailed as in after times.

Development of the caste system.

* See p. 19 below.

Along with the tightening of caste rules and the growing exclusiveness of the Brahmans must be noticed the multiplication of lower castes. These were not as a rule organized on a profession basis,—indeed the great body of professions which have been subsequently divided into separate castes were still embraced by the great undivided Vaisya caste,—but according to locality or race. The bulk of the new castes mentioned in the Sutras are by origin separate aboriginal tribes or immigrants, who, since the formation of rigid social regulations, had been precluded from joining the existing castes and had to form fresh ones of their own. As however the method of their origin is not dissimilar from that of the great Sudra caste, it is easy to understand how they have come to be ranked as offshoots of the Sudras.

Increase of lower castes.

A social unit far older in India than caste was the village. The patriarchal village system, with its headman and its joint land tenure, has in many parts remained unchanged from the earliest times up to the present day. In the period we are considering, the village held an even more important position than now, as towns were few and inconsiderable in size. Probably 80 per cent. of the population lived in villages. These silent toilers on the land, however, are not the ones who make history; hence, although their existence must not be forgotten, it is to the large centres of civilization that we must turn to observe at their best the characteristics of the times. Priests, kings, and warriors abode chiefly in the towns; there learning and science flourished, and the free and lively discussions which there took place contributed to the formation of those systems of philosophy which reflect such glory upon ancient India. The social life inside the towns was certainly a brisk one. Constant meetings were held for business and pleasure, more particularly in the royal palace. Gambling was almost universally indulged in, and a gambling hall ordinarily formed a part of the king's palace. In fact, one of the Sutra authors declares that it was the king's duty to provide such a place.

Social life.

The village.

The towns.

In relation to social life, the most interesting point is again the position of woman. A nation, as history shows, generally stands or falls in accordance with the treatment meted out to its women: hence we are not surprised to find that great respect for women was one of the prominent tenets of Hinduism in the most flourishing periods of Indian history. As in the Epic Age, so in the Rationalist, ladies were not prohibited from devoting themselves to philosophy and learning, and attaining fame thereby. Polygamy was still rare, and was discouraged by the teachers of authority. But child-marriage was beginning to be practised and restrictions were being already placed upon widow re-marriage. Although nothing comparable to the abuses of later times had yet infected the social organism, yet it is clear that the position of woman was declining. The passion for rule and order was beginning to hedge round the freedom of women by unhealthy restrictions, and the leavening influence of free social intercourse between

Position of women.

the sexes was already in danger of being lost.

Amongst the matters more fully treated of in the Sutras are the various kinds of marriage ceremonies, funeral rites, the different stages of a student's life, and the domestic sacraments of householders. In all these matters we find a multiplication of rules and observances, such as must eventually be destructive of mental independence and of spiritual religion. The elaboration of ceremonial together with the over-growing power of the priesthood, both characteristics of the Epic and the earlier Sutra Period, were largely responsible for the birth and growth of Buddhism. It was necessary that elaborate rules and formularies should be replaced by a religion of the heart.

Miscellaneous.

In conclusion, a few words must be said on the question of food. The Sutras carefully distinguish between the animals and birds which may be used for consumption and those which may not be so used. Beef was still allowed as an article of food, but in deference to the growing objections against the taking of animal life, an objection formulated as a fundamental tenet in Buddhism, animal food together with animal sacrifices had become the exception rather than the rule by the 4th century B.C. Spirituous liquor was even more abhorred than flesh food: it was rigidly prohibited throughout the period, and total abstinence was enforced by the most cruel punishments.

IV.—Language, Literature, and Learning.

The ancient languages of India have been the subject of much confusion and mystification, nor is the relation of the various vernaculars to each other and to the various literary languages completely settled yet. The language of the Vedic hymns is generally known as Vedic Sanskrit, or Ancient High Indian. The language of the Brahmanas and Upanishads had undergone considerable change since the Vedic period, and may be conveniently described as Brahmanic Sanskrit, or Second High Indian. It lies midway between the Vedic and the later, or classical, Sanskrit. Besides the works of the Brahmanic age, the Sutras were compiled in this language. But a knowledge of it was by no means universal: indeed by the 7th century it seems to have been confined to the Brahmanic schools. The people spoke a variety of dialects, and the most widely known of these, or at least a semi-literary language modelled on the chief vernacular, was Pali, the language of the royal offices, and of the Jain and Buddhist sacred books. Buddha deliberately used the vernacular. Sanskrit died out of public use completely for several centuries, being only dimly kept alight by the Brahmanic priesthood. The religious revival of Hinduism, and the glorious period of classical Sanskrit, which the decay of Buddhism made possible, belongs to the early centuries of the Christian Era, particularly the fourth and fifth. For a considerable time after that Sanskrit occupied the position held by Latin in mediæval Europe, and then gave way to Prakrit, or rather "the Prakrits," the literary form of the vernaculars spoken amongst the people.

The ancient Indian languages.

The literary languages of the Rationalist Period then were Sanskrit, and in a less degree Pali. The earliest Jain and Buddhist books can with safety be ascribed to a date anterior to Alexander's invasion, and the Sutras of the Brahmans are of various dates, between about the 8th and the 5th century B.C. Sutras, or brief methodical treatises,* were written as handbooks to all subjects. Sutra schools were founded on all sides, and each school seems to have compiled its own Sutras. Thus, each Veda was soon illustrated by, and digested into, a number of separate Sutras, some of which have come down to us along with the names of their authors. The most important series of Sutras which have survived can be placed under three heads. First are the *Srauta Sutras*, manuals of sacrificial ceremonial. Baudhayana and Apastamba are the most authoritative writers in this series. Second are the *Dharma Sutras*, which epitomize the customs, manners, and laws of the time. These Sutras are the most important to the historian, while they derive additional authority from the fact that the Codes of Manu, a work of a later age, were based upon them. Gautama and Vasishta are the most important authors in this series. Third are the *Grihya Sutras*, which give rules for domestic rites. These three bodies of Sutras are collectively called the Kalpa Sutra, which is only one of the six Vedangas, or limbs, of Vedic science. The other five limbs are Phonetics, Metre, Grammar, Etymology, and Astronomy. The Sutras of these Vedangas are less important and valuable historically than those of the Kalpa, and have been less completely preserved. In the science of Grammar, however, much good work was done. Panini, perhaps the greatest grammarian of the world, probably lived in the 4th century B.C. He resolved the Sanskrit language into its primitive roots, and thus antedated the philological discoveries of German scholars by more than 2000 years. What astronomical progress was made in the Rationalist Age is unknown to us, as no Sutra work of the kind has been preserved. In any case the greatest discoveries of Hindu astronomers belong to later times. Certain other sciences, however, which were not treated as separate Vedangas, but included in the Kalpa Sutra, made startling progress during this period. Geometry was developed in India from the rules for the construction of altars, and thus, like grammar, astronomy, and in fact every other science of the time, owed its inspiration to religion. Geometrical propositions, undreamt of as yet elsewhere, were elaborated by Hindus in the 8th century B.C. The Greeks, notably Pythagoras, owed much to ancient Hindu civilization in this subject, as in the realms of pure philosophy. But geometry was soon eclipsed by arithmetic. The Greeks were ultimately able to surpass the Hindus in geometry, but never rivalled them in the science of num-

Compilation of the Sutras.

Their classification.

Sciences. Grammar.

Astronomy.

Geometry.

Arithmetic.

* Weber in his *History of Sanskrit Literature* inclines to interpret the word Sutra as a 'clue,' but 'thread' is its more ordinary meaning. The two words, however, may be taken as synonymous: cf. Macdonell's *History of Sanskrit Literature, Ch. II.*

bers. It was in India that the decimal notation was invented, without which Arithmetic as a practical science would have been impossible.

But the most glorious product of learning in the Rationalist Age lies in the dominion of philosophy.

Philosophy.

The six schools of Hindu philosophy will be dealt with in connection with religion in the course of the following section. One note in conclusion. All the literature of the Vedic and Brahmanic Periods, as well as everything in the Rationalist Age until we come to the Buddhist sacred books, was handed down by rote, and not committed to writing. The alphabet does not seem to have been invented before the 7th century. It was most probably of Akkadian, that is, of Semitic, origin, but of course underwent modifications on Indian soil after its probable introduction by Dravidian traders in the 7th century. It served at first for short notes and letters, official documents and the like, but as yet no materials existed for writing down lengthy treatises. Moreover, the established methods of preserving the national literature, by memory alone, had been long since carried to a high pitch of excellence, and finally, the priesthood probably feared lest their religious lore would become vulgarized by committal to writing. Whatever the causes, writing was not employed for literary purposes until the very end of our period, and the Buddhists were the first to make use of it in this direction.

The invention of writing.

At first confined to secular and non-literary purposes.

V.—Religion and Philosophy: Buddhism and Jainism.

During the Rationalist Period the mass of sacrificial ceremonial which had grown up in the Brahmanic Period was systematized and codified. But the introduction of method and system did not have as a result the wholesome reduction of form and ceremony: it rather tended to make definite much that had before been hazy and to render obligatory much that had before been a matter of free choice. While there were as yet no temples, no idols, and no monstrous pantheon such as degraded the Puranik faith, yet the simplicity of the old Vedic religion had been so marred by formalism and by the introduction of many superstitions borrowed from the non-Aryan races, that new forms of philosophy and religion arose to satisfy men's needs. The reaction against the formalism and rigidity of Hinduism and against the growing pretensions of the priests found its expression in the agnostic philosophy of Kapila and in Buddha's religion of charity and love.

The period marked by revolt against religious formalism.

The systems of philosophy which were developed in the Rationalist Age form its chief title to the gratitude of Posterity. The earliest probably of these in point of time was the Sankhya system of Kapila. He lived about the 7th century and, like other philosophers of the day, tried to give a systematic answer to the inquiries of the Upanishads. The Upanishads, as we have seen, were largely the work of bold Kshatriya scholars who chafed under the pedanticism of the priests and their Brahmanas. But the teaching of the Upanishads is not contrary to Hinduism, whereas that of Kapila is. He is frankly agnostic. Anxious, like Buddha after him, to afford humanity a relief from sin and suffering, he taught that this end could only be gained by attaining to perfect knowledge. Vedic rites, with their slaughter of innocent animals for sacrifice, he rejects as useless: knowledge, meditation, and pious acts alone, he asserts, lead to salvation. While he acknowledges the existence of the soul, and the truth of transmigration, he finds the existence of a Supreme Deity to be incompatible with the Laws of Evidence. He asserts that each soul is separate, whereas orthodoxy taught that all were portions of the Universal Soul. Thus his philosophy was slightly less materialistic than that of modern philosophers of the type of Schopenhauer, but it was equally opposed to the orthodox creeds of his day. Kapila's agnosticism prevented his system from being adopted as the creed of the people.

The six systems of philosophy.

(1) Sankhya.

The Yoga system of philosophy, attributed to Patanjali,* and therefore of later date than the Rationalist Age, sought to supplement Kapila's system by introducing a belief in a Supreme Deity as well as some mystic practices by which, it was believed, beatitude could be obtained. Intense meditation and asceticism were the essentials of the Yoga creed: by these means chiefly was perfect knowledge to be acquired. Given perfect knowledge, the soul acquires emancipation from future births, and is free for evermore. But the system was overburdened by a mass of occultism, and never gained the allegiance of any but the superstitious. Eventually it lost its philosophical side and degenerated into a system of excessive physical mortification.

(2) Yoga.

The third system is that of Nyaya, or Logic. Its founder was Gautama, a well-known Sutra writer, who lived a hundred years or two after Kapila. The objects of knowledge, such as soul and transmigration, are proved by the most subtle ratiocination. But beyond the development of the syllogism, Nyaya contains little that is original: its conclusions, though not always its methods, are largely based upon other systems of philosophy, and especially that of Kapila.

(3) Nyaya, or Logic.

The next system to be noticed is the Vaisesika or Atomic philosophy of Kanâda. It is "supplementary to Gautama's Logic, just as the Yoga philosophy is supplementary to Sankhya." According to this system all material substances are aggregates of atoms, and the atoms are eternal, the aggregates only being perishable by disintegration. Matter is thus eternal, but is distinct from soul. But Kanada's categories cannot be fitly discussed in the present place: his atomic system belongs rather to the domain of physics than of philosophy.

(4) Vaisesika, or Atomic philosophy.

The fifth and sixth systems are closely allied together, and were both elaborated as supports of orthodoxy in response to the growing agnosticism

* See p. 34 below.

of the time. They are the Purva Mimânsâ of Jaimini and the Uttara Mimânsâ, commonly known as the Vedanta, of Vyasa.* The first is little else than a philosophy of Vedic rites. Jaimini's main object is to teach men their duty, and the main duty is asserted to be sacrifice. Little is said about belief, and "God is not deducible from this philosophy." The Vedanta therefore was written to supply this want. The Purva Mimânsâ is the outcome of the Brahmanas, but the Vedanta is the outcome of the Upanishads and treats of the Supreme Spirit and the Universal Soul. The first cause must be God—Brahma—a sentient rational being, and the universe cannot have been evolved from a material cause. The soul is active, is a portion of the Supreme Being, and undergoes numerous transmigrations, eventually after purgation being re-united to Brahma. In fact the whole universe is a portion of Brahma, emanates from Him and is at last resolved into Him. Such were the orthodox philosophical systems which attempted to combat Buddhism and Jainism. But it was useless to oppose the movements of the day and it was not until the revival of Hinduism in the Gupta Period that orthodoxy prevailed. The triumph of the two Mimânsâ schools was marked by the championship of the two great commentators, Kumarila and Sankar Acharya, who lived in the 7th and 9th centuries A.D. respectively.

(5) and (6) The Pûrva Mimânsâ, and the Uttara Mimânsâ.

The religion which now came as a rival to Hinduism, and held the chief place in India for more than a thousand years, was founded by a royal prince, who typified the Kshatriya revolt against formalism and priestly supremacy. Gautama, afterwards known as Buddha, the Enlightened, was the eldest son of Suddhodana, Raja of the Sakya clan, who inhabited a territory east of the Kosala kingdom with Kapilavistu as its capital. The birth of Buddha, which afterwards became the subject of numerous legends, took place about the middle of the 6th century in the garden of Lumbini, and is commemorated by a stone pillar erected by Asoka, whose piety dictated a pilgrimage to the spot. Little is known of Buddha's early life, except that he was thoughtful and meditative beyond his years and preferred silent soliloquy to social amusement. He was married at an early age to a cousin of his own, but his yearning for seclusion and meditation grew upon him daily. Impressed more and more by the sight of sickness and sorrow, and eager to discover a means of combating evil, he seized the occasion of the birth of a son—an event which he feared might bind him too closely to the things of earth—and left his luxurious home in favour of a lonely jungle. He renounced his wife, his babe, his home and the prospect of a throne at one and the same time. After vainly seeking satisfaction in the teaching of successive Brahman ascetics in Magadha, he abandoned himself to nearly seven years of the severest penances in the jungle of Gaya. Fasting and mortification, however, while they reduced him to death's door, failed to bring the peace of mind he sought. Convinced of their inefficacy he returned to a reasonable mode of life. He was now thirty-six years of age, and yet had achieved nothing. But suddenly the revelation came. As, shortly after the cessation of his penances, Buddha was seated in contemplation under the famous Bo-tree, wondering whether or not he should abjure the search which seemed so vain, and return to his wife and beloved home, suddenly the truth flashed upon him in all its significance. Not contemplation, not mortification, it appeared, would avail him to rid the world of sin and suffering, but to preach a higher life and universal love to his fellowmen, that must be his mission. The rest of his life, forty-four years, he spent in preaching these truths amongst the people. Eight months of each year were devoted to itinerant preaching, and during the four months of the rainy season the saint gathered round him in one fixed place all who were eager to be taught. Early in this period of his life the Society or Order of Monks was founded. It grew apace, and people of all classes, men and women, kings, husbandmen and Brahmans, enrolled themselves under the banner of the reformer. Buddha had firmly established his religion in Magadha and the land of his birth before he died at the age of eighty, about 487 B.C. The saint's remains were cremated with great pomp, and his relics distributed amongst his adherents.

Buddhism.

Buddha's birth and early life.

The Renunciation.

The Revelation.

To understand the vast expansion of the new religion a few centuries after its birth, some knowledge of the chief doctrines and characteristics of Buddhism is essential. In Chapter II above we have explained how formalism, priestly assumption, and caste restrictions had replaced the old simplicity of the Vedic faith and the social equality of the primitive Hindus. The reaction against these evils had resulted on the one hand in the agnostic philosophy of Kapila, and on the other in the increase of those bodies of ascetics who sought happiness and salvation through penance and self-mortification rather than in sacrifice and ritual. To Buddha, however, such penances were as vain and fruitless as the interminable ceremonial of the priests, nor was the rigidly intellectual system of Kapila sufficient for the intensely human and sympathetic mind of the great reformer. Therefore, while adopting in the main the Sankhya philosophy as the basis of his metaphysical position, Buddha originated his own system of ethics. Brotherly love, self-culture and holy living, were the essentials of Buddhism, and the inculcation of these tenets, acting upon a ground already prepared for some fresh seed, was rewarded by a rich harvest of devoted followers. But Buddha's own character, gentle, holy, sympathetic, was the strongest recommendation of his creed. He preached that salvation was open to all men, Sudras as well as Brahmans, and was to be attained by right conduct rather than by sacrifices. In his personality and teaching Buddha strikingly resembles Christ, but unlike the Christian Church he abstains from theology. He accepts no deity, and no ritual: his creed is not dogmatic, but ethical and moral.

The essential position of Buddha.

* A mythical person. The name signifies "the arranger."

A short summary of his doctrines will be appropriate. First come the four truths, the noble truth of suffering, of the cause of suffering, of the cessation of suffering, and of the path which leads to that cessation. This path is the famous eightfold path and consists of right belief, right aspiration, right speech, right conduct, right means of livelihood, right exertion, right mindfulness, and right meditation. "The substance of this teaching is that life is suffering, the thirst for life and its pleasures is the cause of suffering, the extinction of that thirst is the cessation of suffering, and such extinction can be brought about by a holy life. It is impossible to convey in a few words all that is implied by the eight maxims into which a holy life has been analysed, but to Buddhists, trained in the traditions of the law, these maxims speak volumes. Correct views and beliefs must be learnt and entertained; high aims and aspirations must always remain present before the mind's eye; truthfulness and gentleness must characterize every word that is uttered; uprightness and absolute integrity must mark the conduct. A livelihood must be sought and adhered to which does no harm to living and sentient things (*e. g.*, the killing of animals for any purpose whatsoever is to be reprehended); there must be a lifelong perseverance in doing good; in acts of gentleness, kindness, and beneficence; the mind, the intellect, must be active and watchful; a calm and tranquil meditation shall fill the life with peace. This is the eightfold path for conquering desires and passions and thirst for life. A more beautiful picture of life was never conceived by poet or visionary; and a more perfect system of self-culture was never proclaimed by philosopher or saint." By prolonged self-culture one can at last attain Nirvana, not final extinction or death, but the extinction of that sinful condition of the mind, which brings about new births. This peace in life, this freedom from desires and passions, Buddha exemplified in his own person. As to the possibility of a future heaven for those who attained Nirvana, Buddha replied that 'he did not know.' But though he could not look beyond an earthly Nirvana, yet the prospect of peace and perfection in this life was more than any previous teacher had promised to the masses of suffering humanity. Buddha then does not believe in an immortal soul, yet he teaches rebirths for those who do not attain Nirvana. Those who fail to conquer their sinful passions must face a series of reincarnations, and continue to suffer the pains and ills of life on earth until they have become thoroughly purged. Buddha was unable to eradicate the now firmly planted doctrine of transmigration and his inconsistency in teaching it at the same time as he denied the existence of soul is explained by *Karma*. Karma, or the 'doing' of a man, cannot die but must necessarily lead to its legitimate result. "And when a living being dies, a new being is produced according to the Karma of the being that is dead." What a man sows, that must he reap. Whatever the logical defects of this teaching, it was a powerful incentive to holiness and good conduct, which are infinitely superior to formal acts. To avoid Karma and attain Nirvana, the higher nature of mankind is called upon to purge itself from the lower pleasures and desires. This could be done by effort and it was open to every man to gain salvation for himself.

His doctrines examined.

Nirvana and Karma.

Although so largely divergent from the current creeds and practices, Buddhism was not in its origin a new religion, for Buddha believed that he was merely proclaiming an ancient and purer form of Hinduism than then obtained. He maintained the doctrine of transmigration, and his followers allowed the existence of the Hindu Patheon, although in a modified form. The ancient gods, Brahma included, were recognised, but they held inferior rank to the Buddhas, those who by holy life had attained Nirvana. In practice, however, Buddhism was hopelessly in opposition to Hinduism, for it failed to recognise caste distinctions. Buddha himself emphatically ignored caste, and held that a man's distinguishing mark was his work and not his birth. "The man who deserves praise for his learning and his sanctity alone earns the name of Brahman." All castes lost their distinctions when admitted to the Order, and even a despised barber became one of the most respected of Buddhist monks. The virtuous life of a Sudra was of more potency and obtained in Buddha's eyes more honour than the most severe penances or the most elaborate sacrifices of a Brahman. This contempt for the invidious caste distinctions of the time was what helped more than any other feature to popularise Buddhism and to establish it as the predominant religion of India. At first, however, the expansion of Buddhism was slow, and when at last it had gained pre-eminence, a number of new practices had crept in, first pilgrimages and relic worship, then veneration of idols. Statues of Gautama and the other Buddhas, holy men amongst his followers, were multiplied and venerated. Some such development was inevitable, for all men craved a Deity to worship, and a purely ethical creed can never permanently satisfy the needs of the multitude.

Relation of Buddhism to Hinduism.

Its rejection of Caste.

One of the most impressive institutions of Buddhism is its monastic life. While Buddha recommended the life of a Bhikku or monk as the most efficacious means of conquering passion and desire, he did not enforce monasticism on all his followers, nor did he establish any line of demarcation between monks and laity. Any person might become a Bhikku, and any Bhikku might return to his previous life in the world. Thus the evil of sacerdotalism was avoided. A notable feature in Buddhism is the admission of nuns to the Order. Buddha yielded in this matter to the importunities of his friends, but the nuns or Bhikkunis were hedged round by a number of conditions, and had to bow down before all Bhikkus.

Monasticism.

The growth of the Order resulted in the construction of numerous viharas or monasteries, examples of which can be seen to this day at Ellora and Ajanta. But this was a later development. At first the Brethren dwelt together in gardens and groves whence they issued to beg their daily bread in the neighbouring towns, for mendicancy was a prominent characteristic of the Order from the very beginning. In course

of time there were drawn up for the regulation of the monks and nuns elaborate rules founded upon the precepts which Buddha had enunciated during his lifetime, and which were handed down intact by the devotion of his followers. Great Church Councils were held from time to time in the early Buddhist Period, *viz.*, in 477 B.C. at Rajagriha, in 377 B.C. at Vesali, and in 242 B.C. under Asoka at Pataliputra. Questions of importance were discussed at all these meetings, and at the last the canon of the Buddhist sacred books was finally settled. Of these sacred books all trace was subsequently lost in Northern India, but the Pali texts carefully preserved in Ceylon can most certainly claim a date anterior to the great Council of 242 B.C. The whole of their framework is Indian and the local colouring is that of Kosala and Magadha. The sacred books of the Southern Buddhists, so-called to distinguish them from the Thibetan and Chinese Buddhists, are known as the three Pitakas, or Baskets. Though not reduced to writing until centuries after their compilation, they underwent but little change in their Ceylonese home, and must in great part be ascribed to the centuries immediately succeeding Buddha's death, *viz.*, the 5th and 4th B.C. Hence they are important as illustrating the manners and customs of the early Hindus in their chief centres of cvilization during the later Rationalist Period. In these books minute rules are laid down for monks and nuns, and philosophical disquisitions are indulged in, but the sayings and doings of Buddha occupy by far the greater part of the whole. Each Pitaka comprises a great number of sub-divisions, to catalogue which would be foreign to the purpose of this summary. Perhaps the most interesting of all are the series of Jatakas or stories included under the first or Sutta Pitaka. They contain material of even pre-Buddhistic origin and "form the most ancient collection of folk-lore now extant in any literature of the world." They are 550 in number and have fortunately found an excellent English translator.*

Buddhist Councils and Sacred Books.

About the time that Gautama Buddha was entering upon his missionary labours, Mahavira, the founder of Jainism, passed away (circ. 527 B.C.). Mahavira, like Buddha, founded a monastic community and spent more than half a lifetime in itinerant preaching. The followers he had gathered together in North and South Behar were known after his death as Jains, since Mahavira claimed to be a 'Jaina' or 'spiritual conqueror.' Jainism was long considered to be an offshoot of Buddhism, but its independent origin is now acknowledged. Still it greatly resembled Buddhism in denying the authority of the Vedas, in its regard for animal life, and in its rejection of sacrifice and caste. The Jains and Buddhists existed side by side for several centuries, but while Buddhism has declined and almost disappeared in India, Jainism has still a considerable following in various parts of Western India.

Jainism.

The sacred books and other records of the Jains are less known than those of the Buddhists, and now only exist in fragments. The eleven Angas which form the most important group of the seven divisions of Jain Scriptures, purport to belong to the 4th century B.C. The objectors to the early date have hitherto failed to prove their contention, and the details about the life of Mahavira, together with the allusions to the political and social conditions of India just before the invasion of Alexander, may be regarded as in the main authentic. Fresh light may be confidently expected to be thrown upon the period when the scattered Jain manuscripts have been fully collated and explained. The evidence of the Jain and Buddhist records in combination should do much to check the errors which have crept into the writings of orthodox Hinduism.

CHAPTER IV.

THE BUDDHIST PERIOD.

I.—The Invasion of Alexander.

FROM the time of the first Greek invasion of India, that of Alexander, the materials for Indian history are supplemented by a number of accounts written by foreign travellers and historians. These external sources are a useful addition and correction to native contemporary literature, and to native tradition.*

Alexander, the greatest conqueror of antiquity, and the greatest military genius of all times, determined to enlarge the Persian Empire he had subjugated by extending its boundaries beyond the Indus. He arrived with his army on the confines of India in the summer of 327 B.C., and having completely established his communications, devoted himself to the task of obtaining the submission of the numerous local tribes west of the Indus, most of whom had been nominally brought under the Persian Empire of Darius.† Internal wars and jealousies led many chiefs to willingly place their forces at Alexander's disposal, and even the King of Taxila, an important monarch beyond the Indus, lent his assistance to the invader. Operations, however, had to be conducted against the Aspasians, a warlike tribe in Kunar Valley, and the Assakenoi, entrenched in their mighty citadel of Massaga (Manglawar in Suwat), for long held the conqueror at bay. Next, the almost impregnable stronghold of Mt. Aornos (Mahaban) near the Indus, gave opportunity for Alexander to display those powers of supreme generalship which, always most remarkable, in the time of difficulty inspired his men with unbounded confidence, and served to intimidate the foe. In the face of a determined enemy a Macedonian garrison was successfully posted upon this peak, 5,000 feet above the Indus, strongly defended by nature and by art, and accessible but by a single path. Having now completely subjugated the surrounding country, Alexander bridged the Indus at a spot somewhat north of Attock, and before the summer of 326 had

Alexander's descent into India, and earlier operations.

326 B.C. He crosses the Indus

* Professor Rhys Davids. Cf. also Chapter XI in his *Buddhist India*, a work which is extremely valuable on the social, economic, and linguistic side. Most of the Buddhist sacred books have been edited in the original by the Pali Text Society (50 Volumes), but only a few have been translated.

* The accounts of Alexander's invasion by the Greek and Roman Historians have been edited in one volume, with a useful introduction, maps, etc., by J. W. McCrindle.

† Cf. p. 13 above.

begun, his army safely set foot upon the soil of India proper "which no European traveller or invader had ever trodden before." Liberally provided with supplies by the friendly King of Taxila, the army proceeded to the Hydaspes (Jhelum). Here, however, Alexander encountered his first formidable antagonist. Porus, king of the country between the Jhelum and the Chenab, determined to resist the invasion, and took up his position on the further bank of the Jhelum with a superior force. But Alexander, undaunted by any difficulties, prepared a great flotilla of boats, and by a skilful night march crossed the river at a spot where he was least expected. The battle which followed is vividly described by Greek writers from the materials of eye-witnesses. The squadron of elephants, on which the Indian king relied, broke through the Macedonian Phalanx by their massive weight, but the very existence of the elephants prevented rapid movements amongst the Indian cavalry and infantry. Charged in front and in rear by the dashing horsemen of Alexander, the forces of Porus were completely broken: his elephants, maddened by wounds, turned indiscriminately upon friend and foe, and the battle ended amid murderous confusion in the total defeat of the Indian army and the capture of their leader. The stricken giant—Porus was 6½ feet in height—craved "only to be treated as a king"—a request that was magnanimously granted, as Alexander not only confirmed him in his lands, but placed fresh territories beneath his sceptre. This act of wisdom secured a faithful and a useful ally.

and Jhelum.

Battle with Porus, July, 326 B.C.

Moving along under the foot of the hills, Alexander crossed the Akesines (Chenab) and having passed through a tract of friendly country, reached the Hydraotes or Ravi. On the further bank of the river there dwelt a confederation of independent tribes headed by the Kathaioi, a warlike race. Their main stronghold, the town of Sangala, was stormed by the Macedonians and all opposition came speedily to an end. Alexander had now crossed four rivers, and approached the fifth, the Hyphasis, or modern Bias. Hitherto he had come into contact with peoples who are known little, if at all, to Indian history, and beyond the resistance of Porus and of the tribesmen on Mount Aornos, no opposition worthy of Alexander's generalship had been encountered. The Punjab had dropped behindhand in the development of Hindu civilization, and during the Epic and Rationalist Periods it figures but little in the national literature. But had Alexander penetrated into the great Middle-land, or beyond that into Magadha, where the Nanda dynasty were then enjoying an acknowledged leadership in Northern India, the resistance he would have met with must have been on a very different scale. The ever-victorious army was, however, weary of perpetual marching and despondent of continuous success. Their numbers were depleted by disease, wars, and death. The King, himself anxious to advance, no sooner marked the despondent feelings of his men, than he sought to rouse their enthusiasm by an eloquent address. His trusty general, Koinos, in replying for the army, urged moderation in conquest, and emphasized the danger of advancing into the heart of an unknown and hostile country with a force so small, weary, and despondent. The loud applause of the men showed that Koinos voiced the general feeling, and Alexander, after three days' solitary and mortified contemplation in his tent, consented to forego his cherished plans, and gave orders for the retreat. Twelve giant altars were erected on the further bank of the river (Hyphasis) to mark the limit of his conquests, and those witnesses of Alexander's power stood for centuries, a source of veneration to natives and foreigners alike.

326 B.C.

Gradual advance to the Bias.

Reasons for not proceeding further.

Sept., 326 B.C.

But though Alexander was unable at this time to give completeness to his Indian conquests, he undoubtedly intended to return at a future date. Meanwhile, the conquests already made were regarded as a permanent addition to his vast empire. Towns were founded in convenient spots, and garrisons left in charge of them. Native kings in some districts, Macedonian generals in others, were appointed as satraps to govern the country. Porus was elevated to the position of supreme king under Alexander, over all the territory beyond the Hydaspes, while the King of Taxila was confirmed in his sovereignty between the Indus and the Hydaspes.

Organization of conquests.

The retreat was conducted in the most masterly manner and was well combined with exploration and fresh conquests. The army first withdrew to the banks of the Hydaspes. There a gigantic fleet of warships and transports was constructed, and in the autumn of 326 B.C. a portion of the army under the king himself, together with the horses and supplies, embarked upon their memorable voyage to the sea. An army of 120,000 men marched along the banks to escort and protect the fleet in its progress through the unknown country. Great difficulty was experienced at the confluences of the rivers. At the spot—now lost trace of owing to changes in the river-beds—where the Hydaspes joined the Akesines, the channel was so narrow and the rapids so dangerous, that two warships were sunk, and the vessel which carried Alexander himself was in imminent danger of shipwreck. In a safe anchorage beyond a halt was made, and an expedition prepared to subdue the neighbouring tribes. A people named the Agalassoi who ventured to resist, met with a terrible fate; and when their last stronghold could hold out no longer, the inhabitants set fire to the town and perished with their wives and children in the flames. After this diversion, the voyage was resumed to the second confluence, where the waters of the Hydraotes discharged themselves into the united streams of the Hydaspes and the Akesines. Here again identification is impossible, owing to the unrecorded geographical changes of subsequent centuries. At this point Alexander met with a most desperate resistance. A body of allied tribes under the leadership of the Malloi co-operated against the invaders. But the delay occasioned by personal and inter-tribal jealousies, so common in Indian history, frustrated

The Retreat, 326-5 B.C.

Operations against the Malloi and other tribes.

their endeavours. Alexander's rapidity of movement and unerring strategy combined to take them unprepared. They were cut down and dispersed, their towns captured, and the remnant, after a desperate struggle in an unknown citadel, submitted and bought their conqueror's clemency by lavish gifts. The storming of the unidentified citadel—situated somewhere on the border of the Jhang and Montgomery Districts—was the scene of one of the most memorable incidents in Alexander's adventurous career. The king had mounted the citadel wall in advance of his followers. In swarming after him they broke the ladder, so that Alexander was left standing alone upon the parapet, confronted by a host of foes. Instead of leaping back from out the wall "he did an act of daring past all belief and unheard of—an act notable as adding far more to his reputation for rashness than to his true glory. For with a headlong spring he flung himself into the city filled with his enemies . . . But, as luck would have it, he had flung his body with such nice poise that he alighted on his feet, which gave him the advantage of an erect attitude when he began fighting. Fortune had also provided that he could not possibly be surrounded, for an aged tree which grew not far from the wall had thrown out branches thickly covered with leaves as if for the very purpose of sheltering the King."* Here Alexander stood at bay and slew a great number of assailants, some with the sword, others with stones. But at length his breast was pierced by a barbed dart, and had not his friends arrived to support him at this moment he must have fallen in the hands of the enemy. The wound was cured with difficulty and the army were under the greatest anxiety about their king's recovery. Though the heroism of such a scene has an almost epic glamour, Alexander certainly deserved the reproaches of his followers for his unexampled rashness.

The voyage was then continued past the third confluence (that with the Hyphasis) to the fourth and last, where the united streams poured their waters into the Indus. Here, in the country of Sindh, warlike operations were conducted against several kings and chiefs. Alexander finally arrived at Patala in Lower Sindh, the then capital of the Delta. After devoting some months to a personal exploration of the Delta, Alexander made his final preparations for leaving India. He himself, with the bulk of his army, marched amidst great sufferings across the arid wastes of Gedrosia, in Baluchistan, and thence to Susa in Persia, where he arrived in May 324 B.C. The fleet under the resourceful Admiral Nearchos sailed round the coast into the Persian Gulf, up to the mouth of the Euphrates. The romantic episodes of this voyage, and the startling peculiarities of the savage races who were encountered at the various landing places on the way, are recorded in the "Indika" of the Greek historian, Arrian.

Alexander's conquest of Sindh, 325 B.C.

Final stages of the retreat, 325-4 B.C.

The Indian expedition of Alexander had lasted from start to finish three years, of which about nineteen months were spent beyond the Indus. From a military point of view the achievements of that period were extraordinary; the genius of Alexander triumphed over all odds, and his organisation both in the advance and the retreat attained almost to human perfection. Had he advanced beyond the Hyphasis, his forces might have become isolated from their base, and failure might conceivably have resulted. But as it was, his success was unqualified, and the superiority of his disciplined troops to the best Asiatic levies was startlingly demonstrated. Had Alexander lived, it is quite probable that he would have maintained his conquest of the Punjab and Sindh, but his premature death (June 323 B.C.) reduced his Indian expedition to the level of a quickly forgotten raid. The generals among whom Alexander's great empire was divided had enough to do to settle their mutual differences, and when the Indian tribes revolted, it was found impossible to assist the Macedonian Garrison. At the second partition of the empire, in 321 B.C., Antipater, the inheritor of Alexander's Asiatic dominions, practically recognized the independence of India, and the last Macedonian officers quitted the Punjab in the year 317 B.C. Politically, then, the Indian expedition was a failure; it led to no permanent annexation, and India remained unchanged. The foreign conqueror was soon forgotten, and the influence of Greek civilization and culture beyond the Indus was practically nil. To assert that India was Hellenized by Alexander is historically unsound, and if in ancient time any Greek ideas filtered through to India, such influence must be ascribed solely to those Græco-Bactrian kingdoms, which, as we shall notice hereafter, were subsequently established on the Indian Borderland.

The expedition a military success.

But a political failure.

It exerted small influence on India.

II.—The First Indian Empire.
The Mauryas and their Successors.

About the time of Alexander's invasion there occurred an event small in itself, but fraught with the most important consequences. Chandragupta, a young kinsman—by his father's side at least—of the Nanda dynasty, was banished from Magadha. The unpopularity of the reigning monarch suggested to the ambitious exile a bold policy of usurpation. He collected, therefore, a formidable army of predatory warriors, whom he first led in the revolt against alien rule after Alexander's death. Having conquered the Punjab, and thereby tested the power of his arms, he attacked, dethroned, and slew the Nanda monarch of Magadha, whose vacant throne he occupied by the aid of an intriguing Brahman, Chanakya. His own private forces augmented the already large army of the Nandas, and Chandragupta, once firmly seated on the throne as the founder of the Maurya dynasty, embarked on a career of conquest hitherto unparalleled in India. Seleukos Nikator, ultimately the successful competitor for the Asiatic realms of Alexander, imitated his master by invading India, in order to recover the Macedonian conquests beyond the Indus. But he was completely defeated by the great Indian king; and not merely abandoned all claim to the Punjab and Sindh,

Chandragupta founds the Maurya dynasty in Magadha, 321 B.C.

Invasion of Seleukos Nikator, 305 B.C.

* Q. Curtius, Bk. IX, Ch. V.

but ceded by treaty four further satrapies corresponding to Eastern Afghanistan and Beluchistan. Thus the North-West Frontier of India was extended to the Hindukush, and embraced regions which neither the Mogul Emperors nor the British were ever able to include in their vast dominions. Nor was this all. Either previous to the invasion of Seleukos, or after its defeat, Chandragupta marched victoriously over all the Northern States and subdued the country South to the Narbada, if not beyond. By ruthless severity Chandragupta governed and consolidated the vast provinces he had gathered under his sway, and his son, Bindusara, inherited in 297 B.C., an empire greater than any which India had yet known.

Chandragupta's conquests.

We are fortunately supplied with much detailed information about the countries of Northern Hindustan in this stirring time, and about the administration of Chandragupta's empire. Seleukos, on abandoning his Eastern schemes, sent as envoy to the Court of Magadha, an observant Greek and competent writer, the famous Megasthenes. The account compiled by Megasthenes of the geography, products and institutions of India, is of the greatest use to the historian of ancient India, although fragments only of it are preserved and the author seems occasionally to have been misled.* He is mistaken in affirming that slavery did not exist, and falls hopelessly into error when he attempts to divide the people into their several classes. But there is no reason to doubt his trustworthiness in matters such as the capital, the court, the army and the administration. Pataliputra, the capital of Chandragupta, is described as an immense city ten miles by two, encompassed by a wall with 570 towers and 60 gates, and by a moat 600 feet in breadth, and 30 cubits in depth. The extent of these fortifications has been hardly excelled by the greatest cities of the modern world, but Indian towns always tended to cover a vast area. Within the walls stood the gorgeous royal palace surrounded by an extensive park and ornamental gardens. The appointments of the palace could show all that gorgeousness and ostentation which are associated with the East, and the king excelled all contemporary princes in the magnificence of his jewels and attire. Amongst the most interesting particulars about the Court is the mention of an Amazonian bodyguard which protected the king in his palace and when he indulged in a royal hunt. The predilection of the monarch for *massage*, is also a point worthy of notice.

Megasthenes and his account of India.

Magadha. Its Capital and Court.

Megasthenes' account of the army is incompletely preserved, but what he says conclusively establishes the great military power of the Maurya kings. "The king has in his pay a standing army of 600,000 foot soldiers, 30,000 cavalry, and 8,000 elephants, whence may be formed some conjecture as to the vastness of his resources. The noticeable superiority in cavalry and elephants over the proportion usually observed in Indian States was a great source of strength to Magadha. The management of Chandragupta's army was of a most highly organized description. The Maurya War Office consisted of a commission of thirty members divided into six co-ordinated departments, each with definitely assigned duties.

The Army and the War Office.

The account of civil administration is not so full as we could wish, but we learn that the land tax was estimated at one-fourth of the gross-produce, that irrigation was entrusted to a separate department of state, that roads were kept in order by special officers who erected signposts and milestones at regular intervals, that artisans were subject to special supervision, and that the administration of the criminal law was both efficient and severe. More detailed information is given regarding the municipal administration of the capital, and it is not unlikely that the other great cities of the empire were governed by similar methods. Megasthenes tells us that "those who have charge of the city are divided into six bodies of five each. The members of the first look after everything related to the industrial arts. Those of the second look after the entertainment of foreigners. To these they assign lodgings; and they keep watch over their modes of life by means of those persons whom they give to them as servants. They escort them on their way when they leave the country; or in the event of their dying, they forward their property to their relatives. They take care of them when they are sick, and, if they die, bury them." From these elaborate regulations we gather that great numbers of strangers visited the capital on business. The Maurya Empire must have been in constant intercourse with foreign states. Probably the treaty with Seleukos was largely responsible for this.

Civil administration.

"The third body consists of those who enquire when and how births and deaths occur, with a view not only of levying a tax, but also in order that births and deaths among high and low may not escape the cognisance of Government.

"The fourth class superintends trade and commerce. Its members have charge of weights and measures and see that the products in their season are sold by public notice. No one is allowed to deal in more than one kind of commodity unless he pays a double tax.

"The fifth class supervises manufactured articles, which they sell by public notice. What is new, is sold separately from what is old; there is a fine for mixing the two together.

"The sixth and last class consists of those who collect the tenths of the prices of the articles sold. Fraud in the payment of this tax is punished with death."

It is noticeable that the authorities for Chandragupta's reign make little mention of religion. The usurping monarch seated himself upon the throne through the assistance of a Brahman, and he probably followed the Brahmanical religion himself. It was left to his great-grandson to take up the cause of Buddhism and to make it the paramount religion of India.

Buddhism not yet the State religion.

* The fragments of Megasthenes' *Indika* are translated in McCrindle's admirable *Ancient India*. See also Rhys David's *Buddhist India*, Ch. XIV.

In 297 B.C., the Emperor died after a reign of twenty-four successful years. Of his successor, Bindusara, but little is known. He maintained a friendly policy with Seleukos and his successor, and Greek writers pretend even to record the details of the correspondence which passed between the Indian king and his Western ally. During the twenty-five years of his reign Bindusara probably rounded off the conquests of his father by the subjugation of the Deccan. The extension of the Maurya Empire to the neighbourhood of Madras was certainly completed before the reign of Asoka, and our knowledge of Chandragupta's reign is detailed enough to warrant the assumption that had he carried his arms victoriously to the South, some record would have been left of the achievement. This task may be assigned provisionally to the shadowy career of Bindusara, and Asoka therefore succeeded to an empire hardly less extensive than the British Indian power of to-day.

Bindusara, 297-272 B.C.

Although a young man when called to sit upon the imperial throne, Asoka had already served as Viceroy, both in Western India and in the North-West Provinces. Ujjain, one of the seven sacred cities of the Hindus, was the capital of the Western Indian viceroyalty, and Taxila in the Punjab, then the head-quarters of Hindu learning, was the capital of the North-West viceroyalty, which probably included Kashmir, the Punjab and the satrapies west of the Indus.

Asoka, 272-231 B.C.

A doubtful tradition asserts that Asoka waded through bloodshed to the throne. But whether or not the succession was disputed, records for the earlier decade of his reign are non-existent. The first event which can be fixed with certainty is a war with Kalinga, a powerful kingdom stretching from the Bay of Bengal to the Godaveri, and as yet unsubdued by the Maurya kings. The war seems to have been stubbornly contested, but resulted in the complete conquest of Kalinga. The misery caused by the war, as Asoka relates in his thirteenth Edict, induced him to foreswear war for the future and led him to the conclusion that the only true conquest was the conquest of religion, that won by the Law of Piety, *i.e.*, the Dharma, the whole duty of man, according to the Buddhist faith. Asoka was a zealous Buddhist, and not only made an extended pilgrimage to all the sacred spots of the Buddhists, but towards the end of his reign actually entered the Order, and donned the yellow robe of a monk, while retaining the responsibilities of his royal office. His zeal for the faith brought about the great Church Council at Pataliputra, at which the Canon of the Buddhist scriptures was finally settled. But his religious enthusiasm went still further. He made it his special business to spread Buddhism throughout his vast empire and to send missionaries abroad. The popularisation of the lofty ethical code known as the Dharma was accomplished by a series of Imperial Edicts, engraved on rocks and pillars, and enforced by all the administrative machinery of an autocratic state.

War with Kalinga, 261 B.C.

Religious acts of Asoka.

The Dharma, and the Imperial Edicts.

On seven rocks in different parts of India, Asoka caused to be inscribed the same series of fourteen Edicts, containing the essentials of his Ethical System. They are all written in various forms of the vernacular, and were first translated by the indefatigable archæologist James Prinsep, about 70 years ago. The Edicts are promulgated in the name of King Piyadasi, 'beloved of the gods,' and it was only through the help of the Ceylon sacred books that this hitherto unknown king was identified with the historical Asoka.

The Fourteen Rock Edicts.

(1) In the first Edict Asoka prohibited the slaughter of animals. He had previously abandoned the royal chase and ceased to partake of animal food.

(2) In the second he provided medical aid for men and animals. Not only was ordinary provision made for travellers, but human and animal hospitals were established in all parts of the empire. "Wherever plants useful either for men or for animals were wanting, they have been imported and planted. Wherever roots and fruits were wanting, they have been imported and planted. And along public roads, wells have been dug for the use of animals and men."

(3) The third Edict enjoins a quinquennial religious celebration.

(4) The fourth Edict emphasizes the importance of the practice of religion and of respect for relations, Brahmans, etc. Asoka here asserts that he has made the practice of religion to prevail throughout his dominions.

(5) The fifth announces the appointment of ministers of religion and missionaries who mix with all sects and all nations.

(6) In the sixth Edict, Asoka asserts that he is constantly busied with superintending the social and domestic life of the people.

(7) The seventh proclaims universal toleration, one of the fundamental tenets of Buddhism.

(8) The eighth recommends as more fitting occupations for kings than the chase, piety, distribution of alms, the religious instruction of the people, and consultations on religious subjects.

(9) The ninth defines the 'meritorious practice of religion,' as regard for slaves and servants, and respect for relations and teachers, tenderness towards living beings, and alms to 'Brahmans and Sramâns.'*

(10) In the tenth the king says that he seeks only that true glory which is founded on spreading true religion.

(11) The eleventh almost repeats the sentiment of the ninth Edict, and asserts that no gift is comparable to the gift of religion, *i.e.*, the imparting of religious instruction.

(12) The twelfth reasserts the importance of toleration and at the same time proclaims the king's intention of extending his own faith by moral persuasion.

(13) The thirteenth mentions the conquest of Kalinga, and regrets the slaughter and sorrow entailed by it. It continues "The beloved of the gods

* *i.e.*, ascetics.

ardently desires security for all creatures, respect for life, peace and kindliness in behaviour. This is what the beloved of the gods considers as the conquests of religion. It is in these conquests of religion that the beloved of the gods takes pleasure, both in his empire and in all its frontiers." Then follow the names of five Greek kings, including Ptolemy of Egypt, to whose kingdoms, as well as to the extremities of India, missionaries had been sent.

(14) The fourteenth concludes this series of edicts and announces that the king will cause still more to be engraved.

This series of edicts are an excellent exposition of Asoka's principles of government and ethical system. Some precepts are repeated, because particular importance was attached to them. Besides this body of laws or rules separate edicts, many of which have come down to us, were published by Asoka from time to time, and inscribed on rocks, or caves, or pillars. Thus we have the special edicts relating to the administration of Kalinga, and the three cave inscriptions at Barabar, in which Asoka dedicates certain cave dwellings to a peculiar mendicant sect, thereby carrying out into practice his principles of toleration. Most important of the remaining inscriptions are those on pillars. On six separate pillars, notably the Lats at Delhi and Allahabad, a series of edicts were inscribed in the later years of the great king's reign. They reiterate and amplify the instructions of the earlier rock edicts, to which they may be justly considered an appendix. We have briefly mentioned the most important of the inscriptions which have been traced to King Asoka. They extend over a period of thirty years, between about 260—230 B.C., and are "the only safe foundation on which to build a history of his momentous reign." They are, however, supplemented by a mass of Buddhist legend, which includes much genuine historical tradition, so that the materials for the history of Asoka are more complete than those of any other reign in Hindu history prior to the Mohammedan conquest.*

Other Edicts and inscriptions of Asoka.

The record of the reign is one of which any monarch might well be proud. Asoka worked indefatigably for his people and his religion. "Work I must" he said, "for the public benefit." He was unwearied in business, and received reports at any hour and place. He governed an empire which extended from the Himalayas to the neighbourhood of Madras, from Beluchistan and Eastern Afghanistan in the West to the mouths of the Ganges in the East. Much of this vast empire was governed directly by the king from his capital of Pataliputra: the rest—the outlying provinces—were administered by four viceroys, generally members of the royal family. The greater part of his long reign was devoted to administration and the inculcation of religion: only one war—that against Kalinga—broke its peaceful course. Much attention was devoted to building. A royal palace of unparalleled magnificence was built at Pataliputra, vast monasteries, countless stupas or sacred cupolas, and massive monolithic pillars were erected throughout the length and breadth of the land. Excepting the pillars, some of which, so valuable for their inscriptions, remain intact, the only buildings of the Asoka period which have escaped destruction are the group of celebrated stupas around Sanchi in Bhopal. The excavations at Sanchi have been fruitful in results of the greatest importance for the history of the early Buddhist period, and it is quite possible that some at least of these stupas were erected by the order of Asoka himself. But undoubtedly Asoka's greatest claim to fame reposes in the measures taken by him to spread the teaching of Buddhism. He neither attempted to destroy Brahmanism or Jainism, but by his active propaganda and the vast ecclesiastical machinery he evolved and controlled, he raised Buddhism to a position far above all rival systems. At Asoka's accession Buddhism was little more than one of several religions in Magadha and Kosala; before his death it had become predominant throughout India and Ceylon. Nay more, it had been carried by zealous missionaries to the confines of Western Asia and even into the territories of European kings. Through the zeal and industry of Asoka, Buddhism had become one of the great world-religions. It had received an impetus which bore it triumphantly forward, and although a Hindu revival was destined to wipe out Buddhism in India itself, the teaching of Gautama penetrated to the Far East, and occupies to-day a position of predominance in the vast and populous Chinese Empire as also in the countries of Burmah, Siam, and Thibet.

Asoka's greatness.

Buddhism becomes a world-religion.

But a philosopher-king of the type of Asoka or Marcus Aurelius is not always distinguished by that practical statesmanship so necessary to the consolidation of a mighty empire. Whether Asoka's religious zeal was incompatible with strong administration, or whether he was unfortunate in his descendants, certain it is that the empire broke up shortly after his death, and his descendants retained only Magadha and the neighbouring provinces. Dasaratha, Asoka's grandson, seems to have been his immediate successor. He is known to us from certain inscriptions, but his reign was a short one. The remaining kings of the Maurya dynasty are mere names, and can be found in the Vishnu Purana.* The imperial line continued to occupy the throne of Pataliputra until about 184 B.C., but with gradually diminishing power. After the accession of the Sunga dynasty in 184 B.C., the descendants of Asoka only survived as petty local rajas in Magadha. Meanwhile new states were formed; peoples conquered by the earlier Mauryas reasserted their independence, and the Andhras, who formed one of the protected states of Asoka's Empire, built up a powerful kingdom between the Krishna and the Godaveri.

About 231 B.C. Death of Asoka.

Break up of the Maurya Empire, 230—184 B.C.

Still the Empire founded by Chandragupta, curtailed as it was, remained the greatest of Indian states, and continued for a while to form the pivot of Indian history. The last Maurya ruler was

The Sungas, 184—72 B.C.

* On the subject of Asoka we are much indebted to the writings of V. A. Smith ('Early India,' 'Asoka' in the Rulers of India Series, and articles in the Royal Asiatic Journal). He has made this period his own. Dutt has also paid very special attention in his work to the great Hindu Emperor.

* See p. 34 below.

treacherously murdered by his Commander-in-Chief Pushyamitra, who founded the Sunga dynasty. Pataliputra remained the capital, and the empire ruled over by the Sungas probably embraced most of the old Aryavarta east of the Punjab, but certainly did not extend further South than the Narbada river. The reign of Pushyamitra is memorable for three things: First, an invasion by the King of Kalinga, now again independent, was beaten back. Second, a more formidable invasion on the part of the Greek Menander, King of Kabul and the Punjab, was repelled after a severe struggle, and a possible loss of territory in the West. Third, Pushyamitra, who was an orthodox Hindu, marked the beginning of the Brahmanical reaction by celebrating with great pomp the *Asvamedha* or horse-sacrifice. This was an ancient rite which only a paramount sovereign could celebrate, nor could it be carried out until after a successful challenge had been given to all rival claimants of supreme power. The defeat of Menander and the King of Kalinga doubtless justified Pushyamitra in performing this solemn rite. The old king, who died in 148 B.C., is the only great figure of the dynasty; his successors enjoyed but the shortest of reigns and accomplished too little for their deeds to be handed down to history. The period was probably one of confusion, and the last king of the ten who composed the Sunga dynasty lost his life in a discreditable intrigue.

Pushyamitra.

A family of powerful Brahmans, the Kanvas, who seem to have governed latterly as "Mayors of the Palace," now seized the throne. Vasudeva had contrived to slay his master, the last Sunga king, but beyond his crime and the time of his accession he is unknown to history. Similarly, nothing is known about the reigns of his three descendants, and we may assume that the time was a time of violence. The last of the Kanvas was slain by a king of the Andhra dynasty* who had for some time past been growing in importance, and who may even have been for some generations before the paramount sovereigns of Magadha.

The Kanvas, 72—27 B.C.

The Andhra kingdom, which now came to the front, had been in existence prior to the time of Chandragupta. Either in his time or in that of his successor, the Andhras were compelled to recognise the supremacy of Magadha.

Early history of the Andhras.

They, however, as mentioned above, reasserted their independence upon the disruption of Asoka's Empire, and rapidly built up a dominion which extended right across the centre of India from the Godaveri to Nasik in the Western Ghats. The dynasty which extinguished the Kanvas and inherited their territory was then no new one, but had already provided the Andhras with at least a dozen kings. About thirty kings reigned altogether, and of these nearly twenty occupied the position of paramount sovereign after the conquest of Magadha. The dynasty endured until about 236 A.D., and the fall of the Andhras curiously coincides with the end of the Kushana dynasty of Northern India, as well as with the rise of the Sassanian dynasty of Persia. No continuous account of the Andhras either before or after their conquest of Magadha can be written, but some few of their kings have found a place in history and deserve consideration. Thus, King Hala, the seventeenth king, who lived in the 1st century A.D., encouraged the adoption of the Prakrits or vernaculars for literary composition. Early in the second century Vilivayakura II waged a successful war against the Sakas, Pahlavas and Yavanas, who had invaded India shortly before the Christian era, and had carved out for themselves a series of kingdoms in the west of the peninsula.* "The greatest of the foreign princes were the Saka satraps of Surashtra (Kathiawar) who fought so successfully against Vilivayakura's successors that Surashtra, and the whole of Malwa, Cutch, Sindh, and the Konkan, were at last, under the great Rudradaman, definitely detached from the Andhra dominions. The Andhra King at the time was Pulumayi II. Of the later Andhra kings Yajna Sri was the most important and the most powerful. A multitude of coins struck by him have been preserved, and it is probable that he recovered some of the lost provinces of the West. His successors, the last three kings of the dynasty, are mere names, and the causes accountable for the downfall of a dynasty which had endured with hardly diminished prestige for so long, are at present totally unknown. The Andhra kings seem to have been generally orthodox Hindus, although they probably refrained from persecuting Buddhism, an act of wisdom when it is remembered that the majority of the people still professed the faith of Buddha. Different cities acted as the capitals of the Andhras at different times, but Pataliputra seems to have sunk into a position of inferiority from which it only arose for a short period at the beginning of the Gupta Era. During the remainder of the Hindu period the tendency is for the centre of power to be shifted further West. Thus before the end of the Buddhist age, Ujjain, an old and sacred but hitherto hardly a pre-eminent city, will be found to have attained that position of unquestioned supremacy among Indian cities which Pataliputra had formerly enjoyed.

The Andhras succeed the Kanvas. Period of their paramountcy. 27 B.C. to 236 A.D.

145 A.D.

End of the Andhra dynasty, 236 A.D.

III.—The Indo-Greek, Pahlava and Saka Dynasties.

Contemporary with the dynasties treated of in the last section, there sprang up on the Indian Borderland and in the West of the peninsula a number of kingdoms of varying size, and generally short duration, ruled for the most part by foreigners. The empire of Asoka had extended Northward to the Hindu Kush, but after the death of that great monarch, the decline of the Maurya dynasty tempted a number of adventurers to enter upon the regions of the North-West Frontier, which accordingly became the scene of war and constant change of rulers for some hundreds of years. The vast Asiatic dominions of Seleukos Nikator had marched with those of Chandragupta, but about the middle of the third century the Bactrians and the Parthians rebelled against his descendants and

* Andhra is a racial name, but is conventionally applied to the great dynasty with which that race provided India.

* See pp. 26, 27, below.

established two independent kingdoms, that of the Græco-Bactrian kings, and that of the Parthian Arsakidae. The Parthian monarchy was destined to eclipse in greatness that of the Seleukidae themselves, and ultimately became a source of constant annoyance to the growing power of Rome. The Bactrian monarchy, whose independence was not recognised until 208 B.C., was fated to have a shorter and a stormier existence. The founder of the Græco-Bactrian monarchy was Diodotus. He was followed by Euthedemos, the king who extracted an acknowledgment of Bactrian independence from Antiochus the Great. Demetrius, the son of Euthydemos, succeeded him and even in the life time of his father carried his arms to India and conquered some territory. He figures as 'King of the Indians,' and probably conquered Kabul, the Punjab and Sindh. A rival, Eukratides, had meanwhile wrested Bactria from the lawful sovereign, and ultimately made himself master of a province of India. The two princes seem to have reigned simultaneously, and the sons of both seem from the evidence of coins to have succeeded them. But at least eighteen princes figure on the coins which have recently come to light, and of these most, if not all, must have reigned in the second century B.C. It seems then that the Indian Border-land was parcelled out among a crowd of Greek princelings, whose chronology and mutual relations are by no means clear. Possibly they were related for the most part to the families of Demetrius and Eukratides, but as their names are with few exceptions known only from coins, nothing certain can be predicated of them. The only conspicuous prince among them was Menander, whose invasion of India, so successfully frustrated by Pushyamitra, was mentioned in the last section. He seems to have been of the family of Eukratides, and to have had his capital at Kabul.

Formation of Bactrian and Parthian Kingdoms. Circ. 250 B.C.

Græco-Bactrian Kings in India.

Demetrius and Eukratides, Circ. 190 B.C.

Menander, 155 B.C.

During the life-time of Menander there occurred one of those periodic tribal movements peculiar to Central Asia, and it greatly upset the political conditions in the North-West. The Sakas, a section of the great Turki or Scythian race, driven from their homes by the Yueh-chi,* migrated South-Westward and about 130 B.C. penetrated into Bactria, where they overthrew the Græco-Bactrian Kingdom, and destroyed for ever Greek rule to the North of the Hindu Kush. Pouring onwards, the Saka hordes occupied Seistan (Western Afghanistan) and passing into India, displaced the majority of the Indo-Greek princes who had established themselves on the North-West Frontier. A few Greek princelings, however, survived in the regions to the North of Peshawar as late as 50 A.D., but they must have acknowledged the supremacy of Saka or Parthian overlords. The Sakas rapidly extended themselves over North-West India. As early as 100 B.C., Saka Satraps were established at Taxila in the Punjab and Mathura on the Jumna. Others occupied Surashtra (Kathiawar) and there ultimately founded a kingdom which extended to Ujjain in Malwa, and endured for about three hundred years.*

The Saka invasion, 130—100 B.C.

Saka Monarchy and Satraps, 100—57 B.C.

Even the Mahratta country was for some time under a Saka Satrap, but the Andhra kings prevented any permanent occupation of the Deccan by a foreign race. The titles of these Saka princes as revealed by the coins were generally Kshatrapa (Satrap) or Mahakshatrapa (Great Satrap). These titles alone indicate their foreign origin. One series of Saka princes use the imperial title 'king of kings,' and they were powerful enough to found an era which has lasted to the present day. These, of whom Vonones and Maues are the best known, were doubtless the kings paramount, while the Satraps of Taxila and Mathura, of Surashtra-Malwa and the Deccan, were in origin inferior kings, owing allegiance to these sovereign lords, but ultimately gaining an independence, and, in the case of the Surashtra dynasty at least, a position of overlordship which justified the title of Mahakshatrapa.

The Saka Emperors and the Satraps of the North soon lost their power, and were succeeded by the Indo-Parthian or Pahlava kings, who were connected with the Arsacide royal family of the Parthian empire, and possibly with the Pallavas of South India, of whom mention will be made hereafter.† It was in the middle of the 1st century B.C., when the Sakas had been settled in India for less than a hundred years, that Arsaces Theos "The Divine," a scion of the Arsacide dynasty of Parthia, invaded the Saka territory. The Warlike Malwa clans seized the opportunity to rebel against their masters, so that the Sakas, attacked on both sides, were totally defeated, and their empire broken up. The Indo-Parthian kingdom, which now superseded the Saka empire, and so ultimately the Indo-Bactrian principalities, was itself of as short duration as its predecessors. It reached the zenith of its power under Gondophares, whose reign, it is practically certain, began in 21 A.D. He is principally interesting in that ancient Christian tradition associates him with the name of St. Thomas, the Apostle of the Parthians and of South India. St. Thomas was believed to have converted 'multitudes of the people' and then to have suffered martyrdom at the hands of a neighbouring king. But the story is probably a piece of pure mythology, and is only valuable by the evidence it provides as to the existence and greatness of King Gondophares. While this monarch seems to have ruled over Kandahar, Seistan, the Punjab and Sindh, his successors were gradually pushed southwards by the advancing Yueh-chi hordes‡ and eventually sank to the position of petty princes in the Indus delta. There they held sway for a time, just as the Indo-Greek princelings retained a limited sovereignty in some of the valleys of the North-West. Although the Sakas had given place to

The Pahlavas and the Indo-Parthian Kingdom, 57 B.C.—Circ. 60 A.D.

Defeat of Sakas, B.C. 57.

Gondophares.

Decline of Indo-Parthian Monarchy.

* See p. 27 below.

* See p. 27 below.
† See p. 40 below.
‡ See p. 28 below.

the Indo-Parthian kings, one branch survived in Gujerat in the position of dependent Satraps. It was this branch which finally established the great dynasty of the Western Satraps—those Mahakshatrapas who ruled for three hundred years over Kathiawar-Malwa, and gave such trouble to the Andhra kings.* The downfall of the Indo-Parthian empire, brought about by the Kushana invaders, before the end of the 1st century A.D., provided these Sakas with the opportunity they sought. About 78 A.D., they re-established their independence, and Chasthana, who re-subjected the Mallavas, was the real founder of the Western Satrapy. It extended its power as the Andhra kingdom became weaker and endured until in its turn it was overthrown by the Gupta Emperors.† There were in all twenty-seven kings of this dynasty; they all, after Chasthana, bear Indian names, and seem to have forgotten their foreign origin, becoming thoroughly Indianized and thus more acceptable to the Hindu population over whom they ruled.

Succeeded by the Kushanas, Circ. 60 A.D.

The Western Saka Satrapy, 78—409 A.D.

409 A.D.

Thus for several hundreds of years the North-West of India had been the prize of rival invaders and rulers of foreign race, who although sometimes contemporaneous, roughly succeeded each other in three distinct periods, which we have described as the Indo-Bactrian, the Saka or Scythian, and the Indo-Parthian. There now arrives upon the scene a fresh horde of invaders, the Yueh-chi, who established an empire and a dynasty—the Kushana—greater than any of the preceding, and whose importance demands a separate narrative. First let us pause and inquire to what extent, if any, the series of invasions just described affected the civilization of India. What did the contact of Greek, Scythian, and Parthian contribute to Hindu thought, manners, and institutions? The Parthian princes ruled in India too short a time to make much impression in the country, and during that short time it is reasonable to conclude that they learnt more than they taught. Hindu civilization was the more highly developed of the two, and the conquering races throughout this period of Indian history assimilated themselves to the people over whom they ruled and became Indianized in feeling, in language, and often in religion. The Sakas of the North were also too short-lived to leave any lasting impression;‡ moreover, their condition compared to that of the Indian peoples was one of barbarism. Where the Saka rule endured for any length of time, *e.g.*, in Surashtra-Malwa, its character became purely Indian. The Western Satraps adopted Indian religions, some Buddhism and others Brahmanism. But though little impression was left upon Hindu civilization by Parthians or Sakas, it is reasonable to expect that the Græco Bactrian princes who ruled for so long in the Punjab (we hear of one Hermaios, a Greek king on the Indian Frontier, so late as the eve of the Kushana invasion) should have left some more lasting traces of themselves. Hellenism had such an individualism of its own and Greek civilization so rarely failed to take deep root where its seed fell, that the Punjab at least might be thought to have been thoroughly Hellenized. But such was not the case. So far from having influenced India as a whole, the traces of Greek influence even in the Punjab are surprisingly slight and trivial. The coins are mainly Greek in type, but no Greek inscriptions have been discovered. There is no evidence even that Greek architecture was ever introduced into India. To some slight extent Indian pictorial and plastic art, *e.g.*, Buddhist sculpture—may have received a Greek stamp, but even here what was borrowed "has been so cleverly disguised in native trappings that the originality of the Indian imitators is stoutly maintained even by acute and learned critics." "The conclusion of the matter is that the invasions of Alexander, Antiochus the Great, Demetrios, Eukratides, and Menander, were in fact, whatever their authors may have intended, merely military incursions, which left no appreciable mark upon the institutions of India. The prolonged occupation of the Punjab and neighbouring regions by Greek rulers had extremely little effect in Hellenizing the country. Greek political institutions and architecture were rejected, although to a small extent Hellenic example was accepted in the decorative arts, and the Greek language must have been familiar to officials at the kings' courts. The literature of Greece was probably known more or less to some of the native officers, who were obliged to learn their masters' language for business purposes, but that language was not widely diffused, and the impression made by Greek authors upon Indian literature and science is not traceable until after the close of the period under discussion.*

Effect of these invasions on India.

Hindu civilization little affected by the Parthian, Saka or even Græco-Bactrian rule.

Hellenism took little root in India.

IV.—The Kushana Empire.

The Kushana Empire was not strictly an Indian empire, but as it included for a time within its boundaries a large portion of India, it requires some mention in these pages. We have seen that the Sakas were displaced from their original settlements in Central Asia by the Yueh-chi, a race of nomads, but Mongolian like themselves. The Yueh-chi came from North-West China, whence they had been expelled by a rival horde of the same stock. Having usurped the territory of the Sakas and driven them south towards India, the Yueh-chi remained undisturbed for about twenty years between the Jaxartes and the Chu rivers. At the end of that time they were expelled in their turn by a rival tribe, the Wu-sun,

Circ. 160 B.C.

Circ. 140 B.C.

* See p. 25 above.

† See p. 29 below.

‡ It is probable, however, that the Jats, a considerable body in the North-West, are of Saka or Scythian ancestry. Even so, however, the Sakas need not have exercised any influence on Hindu civilization as a whole. Their influence was purely local.

* V. A. Smith: *Early History of India.* Such closer contact must have taken place after the Hellenization of Western Asia, probably in the period of the Kushana kings, whose dominions embraced both Hindu and Hellenized areas. Even then the mutual influence of Greek and Hindu literature is difficult to measure, and is by some denied altogether. But in certain branches of Science, at any rate, the contact between the two civilizations produced marked effect. The Hindus certainly learnt some astronomy from the Greeks, and probably taught them mathematics.

and had perforce to resume their march. They moved to the valley of the Oxus, and settled upon the lands on its north side (Sogdiana), while they overran and dominated Bactria to the south. Here they lost their nomad habits, and became a territorial nation, divided into five principalities. Nothing is further known about the fortunes of the tribe for a considerable time, and the next landmark is that unification of the Yueh-chi under Kadphises I, the chief of the Kushana section of the horde. He became sole monarch of a united Yueh-chi nation about 45 A.D. At this time the growth of population caused the tribe to take up again its lengthy wanderings: it crossed the Hindu Kush, and began to subjugate the provinces on the Southern side. Kashmir and Afghanistan seem to have been conquered by Kadphises I, and he probably also made a beginning of those Indian conquests which were completed by his successors. Thus the suppression of the Indo-Greek and the Indo-Parthian chiefs was begun, but it was Kadphises II who finally extinguished the Indo-Parthian power in the Punjab and the Indus valley. This ambitious monarch, while he measured swords in vain with the powerful Chinese Empire, carried his arms victoriously over the North-West of India, and extended the Yueh-chi dominion almost to the borders of Bengal. The coins of this emperor have been found scattered all over Northern India from Benares to Kabul. Of these coins many are based upon Roman models, and we know from Dion Cassius, the Roman historian, that an Indian embassy came to Rome in 99 A.D., and congratulated Trajan on his succession to the empire.

Circ. 70 B.C.

Kadphises I, Circ. 45 A.D.

Kadphises II, Circ. 85 A.D.

Kadphises II was almost certainly succeeded by Kanishka, the greatest monarch of the Kushana dynasty. This king is mentioned in not a few inscriptions, and his memory has been perpetuated by the legends of the Northern Buddhists. But the fixture of his date has been the subject of much controversy, and it is only fair to say that the date of 125 for his accession, as also the assumption that he immediately succeeded Kadphises II is strenuously disputed by certain scholars of note.* Still the numismatic evidence is so much in favour of an early date, that the majority of orientalists are agreed to accept 125 A.D. as provisionally correct.

Kanishka. Circ. 125—150 A.D.

His Conquests.

In spite of the favourable length of Kanishka's reign, his achievements are remarkable. He warred successfully against the Parthians, conquered Kashgar, Yarkand and Khotan, all dependencies of China, and in India he carried his empire to the mouth of the Indus, completed the subjugation of Kashmir, and is credited with an attack upon Pataliputra in Magadha. Kanishka's capital was Purushapura, the modern Peshawar, and there he erected a vast Buddhist monastery and a magnificent tower. The famous Gandhara sculptures may partly be attributed to this reign, and show that Kanishka like most oriental conquerors, was a devoted builder. In the history of Buddhism Kanishka occupies an important place. Converted apparently late in life after he had successively served the devil, the Greek and Persian gods, he devoted himself to the task of imposing Buddhism upon his subjects and to extending the faith abroad. The Buddhism of his day was more adapted to foreign propagation than the purer faith of Asoka. "This newer Buddhism, designated as the *Mayanana*, or 'Great Vehicle' (as contrasted with the *Hinayana*, or 'Little Vehicle'*) was largely of foreign origin, and developed as the result of the complex interaction of Indian, Zoroastrian, Christian, Gnostic and Hellenic elements, which was made possible by the conquests of Alexander, the formation of the Maurya Empire in India, and above all by the unification of the Roman creed under the sway of the Earlier Emperors. In this newer Buddhism the sage Gautama became in practice, if not in theory, a god, with his ears open to the prayers of the faithful, and served by a hierarchy of Bodhisattvas and other beings acting as mediators between him and sinful men. Such a Buddha rightly took a place among the gods of the nations comprised in Kanishka's widespread empire, and the monarch, even after his conversion, probably continued to honour both the old and the new gods, as in a later age Harsha did alternate reverence to Siva and Buddha."† Kanishka was certainly instrumental in making Buddhism known to China, where it took deep root in the second century, and his zeal for the religion was also shown by the holding of a Great Church Council, which seems to have met in Kashmir, and to have stamped with its approval certain Buddhist commentaries. Kanishka met his death, apparently by violence, about 150 A.D., and like Asoka and Akbar was unfortunate in his successors. Although Huvishka, about whom little is known, seems to have preserved the Empire undiminished, it began to break up in the reign of Vasudeva, for after his death there is no trace of the existence of a paramount power in Northern India. Anarchy prevailed upon the North-West Frontier, but there is evidence that kings of Kushana race held their own in Kabul until they were overthrown by the White Huns in the fifth century. The third century is a period of darkness as regards the history of India proper. The Andhra dynasty came to an end approximately at the same time as the Empire of Kanishka, and beyond the records of the Saka Satraps in the West we have no guiding light to steer by until the imperial Gupta dynasty emerges at the beginning of the fourth century A.D.

Conversion to Buddhism, and zeal for the faith.

Kanishka's successors.

Break-up of the Kushana power.

The 3rd Century a blank in India.

V.—The Second Indian Empire: The Guptas.

The Kushana Empire was not an Indian Empire in the sense of extending over the greater part of India. But the Empire founded by the Mauryas was peculiarly Indian, and that founded about six hundred years later

* Cf. A *Peep into Early Indian History*, by Dr. R. G. Bhandarkar, J.R.A.S., Bombay, Vol. XX.

* See p. 33 below.

† V. A. Smith, *Ancient India*, p. 233.

by the Guptas was equally Indian. It may be called the second Indian Empire. Its kings were pure Indians; it embraced the greater part of the Peninsula, but no territory outside India. Magadha, which had been the centre of the first empire, now also became the starting point of the second. About 280 A.D., a certain Gupta, probably a Sudra, succeeded in making himself Rajah of Magadha. His grandson, Chandragupta, more fortunate than he, married a princess of the Lichchavi clan which seems to have greatly increased in importance since it last appeared in history during the Rationalist Age.* This Chandragupta it was who laid the foundations of the Gupta power. He styled himself King of Kings. He extended his territory along the Ganges to Allahabad, and also ruled over Oudh. His power was sufficient to warrant the adoption of a new era, the Gupta Era, which has been certainly fixed as beginning in 320 A.D.

Origin of the Gupta power.

Chandragupta I. Dies circ. 326 A.D.

The Gupta Era.

His son, Samudra Gupta, was the founder of a more extended empire. Much of his long reign was devoted to wars of aggression, and the Asokan pillar of Allahabad contains an amazing list of his conquests. The Sanskrit poet who composed the panegyric so luckily inscribed on this pillar "classifies his lord's campaigns geographically under four heads: as those directed against eleven kings of the South; nine named kings of Aryavarta, or the Gangetic plain, besides many others not specified; the chiefs of the wild forest tribes, and the rulers of the frontier kingdoms and republics." The rajahs of the North were "forcibly rooted up." The forest tribes mentioned inhabited Orissa and the Central Provinces. Among the Southern kings vanquished were the chiefs of the Pallavas, robber clans who had established themselves on the Coromandel Coast some centuries before. The Punjab was at this time, as in the time of Alexander, inhabited by a number of republican clans, who had doubtless risen on the ruins of the Kushana Empire. These were subjected, but not apparently brought under the direct rule of Samudra Gupta. They assumed therefore the position of protected states. The vast Southern conquests also were not retained; the expedition to Cape Comorin was rather a gigantic plundering expedition of the type so common in the East, and a nominal suzerainty was the only permanent memorial of these years of warfare. Still the dominion under the direct government of Samudra Gupta comprised all the most populous and fertile countries of Northern India. It extended from the Hooghly on the East to the Jumna and Chambal on the West, and from the foot of the Himalayas on the North to the Narbada on the South. Surashtra, Gujerat and Malwa still retained undisputed independence under the Western Satraps, but the remaining kingdoms, both in the North-West and in the extreme South, had been overrun and compelled to acknowledge the Emperor's suzerainty. No Emperor since Asoka had brought so many Indian states beneath his sway, and the Gupta power was evidently acknowledged by the kings of Kabul and Ceylon, who both maintained diplomatic relations with Samudra Gupta. The revival of the horse-sacrifice also testifies to the great power achieved, for none but a paramount king dared to perform this rite. But Samudra Gupta was not alone distinguished by success in war. He was clearly an exceptionally gifted ruler and a talented man, a musician, and a composer of verse. He took much delight in the society of the learned, and assiduously studied Hindu scriptures. He was therefore a votary of Brahmanism and not of Buddhism. It is interesting to notice that Samudra Gupta removed his capital from Pataliputra, where his predecessors had held their court, to Kausambi in Central India, about 90 miles south-west of Allahabad. After the reign of nearly half a century he died full of honours and glory and was happy in the peaceful accession of his able son, the Second Chandragupta of the dynasty. This king was probably the Vikramaditya ('sun of power') of the legends, that great king who is associated in Indian history with the Hindu and Brahmanic revival and whose glory attracted to his court the nine gems of Sanskrit literature. But the identity has not as yet been absolutely established. Chandragupta II has, however, very definite claims to greatness. He was a wise and talented man, a reputed artist and a strong, vigorous ruler. Though he never sought to consolidate an empire in the South, he made successful expeditions to the North-West, as we are told by the iron pillar at Delhi, and he finally destroyed the Western Satrapy, thus annexing the rich and populous Surashtra-Malwa kingdom to his dominions. What the Andhra dynasty had failed to accomplish, the Gupta Empire did with ease, and by the close of the fourth century few, if any, foreign chiefs held sway in India. Some account of the institutions of Northern India as also of the topography and religious condition of India at large can be gathered from the narrative of the Chinese traveller Fa-hien, who stayed six years in the country to which he had come as a Buddhist pilgrim.* Naturally his attention is chiefly taken up with Buddhist legends, sites, monuments, relics, and holy books. Still the incidental allusions to contemporary civilization are both numerous and valuable. Fa-hien testifies to the excellent and orderly government which the people then enjoyed. Taxes were light, the movements of the population not restricted, corporal punishment rare. The pilgrim is much impressed by the glories of the late capital, Pataliputra, where he inspected the ruins of Asoka's magnificent palace. He notices that charitable institutions abounded in the great towns, and rest-houses were provided for travellers on the highways. The free hospitals at Pataliputra are singled out for special praise. The poor of all countries could repair to them, and "received every kind of requisite help gratuitously. Physicians inspect their diseases, and according to their cases, order

Samudra Gupta, Circ. 326—375 A.D.

His extensive Conquests.

Chandragupta II, Circ. 375—413 A.D.

His Conquest of the West.

Fa-hien in India, 405—411 A.D.

State of the country.

* See p. 21 above.

* See Beal's *Travels of Fa-hien*, etc. (translated from the Chinese).

them food or drink, medicine or decoctions, everything in fact that might contribute to their ease. When cured, they depart at their convenience." Although the ruling Emperor was a Hindu, and favoured the Brahmanic reaction, Buddhism was still professed by the majority of Indians, and Buddhist learning flourished in gigantic monasteries. Toleration must have been one of the fundamental principles of the mild but strong government of Chandragupta Vikramaditya. No government for centuries had been so effective or so popular.

Later Gupta Emperors, 413-480 A.D.

Kumara Gupta I, the son of Chandragupta, reigned with undiminished power until the middle of the century, when the savage Huns began their inroads. One branch of this Mongol horde passed into Europe, under the leadership of Attila, the 'scourge of God,' while a second branch remained in Asia, and under the name of the White Huns, defeated the Persians, overthrew the Kushana kingdom of Kabul, and at last penetrated into India. At this time

Invasions of the Huns begin Circ. 450 A.D.

Skanda Gupta succeeded to the throne of his father and inflicted a decisive defeat upon the Huns (Circ. 455 A.D.), which, however, only gave India a temporary breathing space. About 470 A.D., a fresh swarm of nomads advanced into the interior, and the Gupta Empire began to succumb under their repeated onslaughts. With the death of Skanda Gupta about 480 A.D., the Empire perished, though the dynasty continued to rule Magadha and the surrounding districts for several generations. Members of the family also reigned in Malwa for a time, and a third line, of foreign origin, took advantage of these troublous times to found the kingdom of Valabhi.* But all these princes must

Break-up of the Gupta Empire.

have been tributaries of the conquering Huns, who under Toremana and Mihiragula established a paramountcy over Northern India. This Hunnic Empire and its disruption belong, however, to the next or Puranik Period. Buddhism was now in its decline, and the Buddhist Period may appropriately be closed at 500 A.D. It had witnessed the two greatest Empires of ancient India; henceforth, with rare exceptions, the

Supremacy of the Huns, Circ. 485-540 A.D.

country suffers from disintegration and division. No Empire comparable in extent or stability to the Maurya and the Gupta Empires arose in India until the Mohammedans had established their supremacy.

VI.—Law and Administration in the Buddhist Age.

To this period, perhaps to the time of the early Guptas, may be referred the famous Code of Manu. This body of law is, however, merely one of several legal treatises which were written in verse, and for the most part modelled on the prose Sutras of the Rationalist Age. The exposition in the metrical codes is

The Institutes of Manu.

generally clearer than in the Sutras, but on some subjects the law has become severer. For instance, the stricter prohibition against taking animal life testifies to the influence which Buddhism had been exercising upon the community. At the same time the law of Manu claimed to be the ruling of immemorial antiquity. It was called after Manu because the Brahmans declared it to be of divine origin, and ascribed it to the first Manu, or Aryan man, 30,000,000 years ago. Manu was regarded as the Father of the Aryan race, and figures in the Hindu version of the Flood-story.

The Institutes of Manu* are divided into twelve books. A few of the matters treated of may be briefly alluded to. It must be premised that the law as here laid down was Brahmanical Hindu Law, and therefore in some respects not accepted by the Buddhists, who during this period formed the majority of the population. Nor was it acceptable to the supporters of the new and debased Hinduism, which was now coming into being. It prescribes Vedic rites and sacrifices, and makes a stand against the growing image-worship, and that mass of mythology and superstition which was incorporated into the later or Puranik Hinduism.

Manu declares the king to be the fountain of

Their subject-matter.

justice, and speaks at length on the competence of witnesses, and the absolute necessity for them to speak the truth. "Naked and shorn, tormented with hunger and thirst and deprived of sight, shall the man who gives false evidence go with a potsherd to beg food at the door of his enemy." "Headlong, in utter darkness, shall the sinful man tumble into hell, who, being interrogated in a judicial enquiry, answers one question falsely." Manu divides the law into eighteen heads, of which

Criminal Law.

six relate to criminal and twelve to civil cases. The criminal law is disfigured by caste distinctions, as in previous times. For instance, a Sudra who defames a Brahman is to have his tongue cut off, whereas no amount of defamation on the part of a Brahman is punished more severely than by fine. But the barbarity of punishment with which Sudra offences are threatened was probably much mitigated in practice. Theft and robbery are regarded as very heinous offences, and the king who does not afford protection to property "will soon sink down into hell! Adultery, except in the case of a Brahman, was to be punished by death, an adulterer to be burnt, and an adulteress to be devoured by dogs. The death penalty is enjoined for those who slay women, children, or Brahmans, for thieves caught with stolen property and their accomplices, for the destruction of dams or tanks, for treason and for treasonable practices, such as the forging of royal edicts and the bribing of ministers.

Careful rules are formulated with respect to debt,

Civil Law.

the rate of interest,† sales, partnership, and deposits. It is enjoined that a workman should not be paid unless he did his work according to agreement, and the breaking of agreements could be punished by fine, imprisonment or even banishment. A very interesting provision is that purchasers or sellers could cancel their bargain within ten days. Such frequent occurrences as disputes between owners of cattle and servants were fully provided for. Thus the herdsman was responsible for all animals lost by his negligence, while the owner was to

* See p. 36 below.

* The Institutes are translated by Bühler in Vol. XXV of the *Sacred Books of the East.*

† Cf. p. 22 above.

be responsible by night, if the cattle were housed for the night. In this connection it is interesting to find that a space of common pasture land was reserved round villages and towns. Manu emphasizes the dependence of women on men, and insists that a dutiful wife should not show aversion to a drunken husband. Widow remarriage was gradually dying out, but the marriage of a virgin widow is expressly permitted. Gambling and betting "cause the destruction of kingdoms," and were to be met by corporal punishment and banishment. The Law of Inheritance is the most fully treated of all subjects, but is too complicated for discussion in these pages. It forms the basis of the modern Hindu Law of Inheritance, and was in its turn based upon the Sutras of the Rationalist Age. But many portions of the Institute have ceased to be operative in the present day. "The Draconic severity of the law towards Sudras was probably never reduced to practice, even in the days of Brahman supremacy, and all distinctions in punishment, based on caste, certainly ceased to have operation after the Mohammedan conquest of India. Men of superior caste do not marry women of inferior caste now; widow marriage has altogether been stopped since Manu's time, and many of the domestic rites insisted on by Manu have ceased to be performed."

Economics and administration are touched upon in a few miscellaneous provisions, which should be read in the light afforded by Megasthenes' account of Chandragupta Maurya's regime. Thus the king could impose an *ad valorem* tax of 5% on the sale of all merchandise. In the case of Chandragupta we have seen that the duty was 10%. The king could retain a monopoly of certain articles, and punish all who infringed upon it. He was entitled to fix all weights and measures, and Manu gives us a lengthy list of the weights in use. He levied customs and tolls, a part of the royal prerogative in almost all old monarchies, both Eastern and Western. The body of the revenue, however, was derived from the land tax, which Manu fixes at an eighth, sixth or twelfth part of the produce. A fiftieth part of the increment on cattle and gold, and a sixth part of trees, meat, butter, earthen vessels, stone-ware, etc., supplemented the land tax, the customs, and the excise. The king is warned against excessive taxation, and the rapacity of officers is provided against by the appointment of superintendents—*i.e.*, inspectors—for each town. A hierarchy of officials administered the country under the eyes of these superintendents. The king appointed a lord over each village, lords of ten villages, of twenty, of a hundred, and lastly of a thousand villages. Above these came the viceroys of provinces, but such important functionaries were confined to the more extensive Empires, such as those of the Maurya and Gupta kings. Seven or eight ministers seem to have generally assisted the king in his administration, while separate officers were employed as revenue collectors, and for the management of mines and manufactures. The officials were, as a rule, paid by the assignment of lands, some no doubt in perpetuity, like the jagirdars of later times. There is evidence that much land was alienated to monasteries and temples after the fashion common in mediæval Europe. Such lands, of course, paid no taxes. The Code of Manu also contains some interesting remarks upon warfare and military administration. The importance of building fortresses is dwelt upon, and humane laws of war are laid down. Siege methods are detailed and the king is enjoined after the conquest of an enemy to respect the local customs and laws of the vanquished. In general it must be said that the principles of administration inculcated by Manu were highly civilized, and there is every indication that the people were prosperous and contented. Even in time of war, the body of the population seems to have suffered little. But the picture of Indian life and administration can be more accurately drawn in the ensuing period from the materials collected by Hiuen Tsang, the great Chinese traveller. For in the case of a Code like that of Manu it is sometimes difficult to differentiate the ideal from the actual.

Economics and administration.

Taxation.

The Civil Service and the Royal Inspectors.

Payment of officials.

Military administration.

VII.—Society, Religion and Literature.

The social conditions described by Hiuen Tsang in the 7th century, which we reserve for mention in the following chapter, will apply broadly to the period under discussion.

The Institutes of Manu are very informing on the subject of caste, but when the author attempts a historical inquiry of its origin, he wanders much astray. It must also be remembered that the principles enunciated by him were those of the Brahmans and doubtless of the Hindu revival, but not of the Buddhists, and therefore it is dangerous to assert that they were scrupulously observed during the Buddhist Period. If Manu were to be believed, some of the most necessary trades in any social system were regarded with contempt. Such were singers and actors, makers of bows and arrows, architects and messengers, trainers of horses and other animals, instructors in arms, washermen, hunters, goldsmiths and blacksmiths. Practically all artisans, shepherds and agriculturists were held in contempt and degradation by priests and kings. Little chance was thus afforded to the aspirations of genius among the people, and where a great artist or a great sculptor could not obtain honour among his countrymen, there was little hope of that artistic fruit of the highest order, which springs from the soil of a tolerant individualism. Whatever emancipation Buddhism may have brought about in these directions was reversed by the triumphant Brahmanism of the 4th, 5th and following centuries. Even maritime navigation and commerce, which had flourished for a time in the Buddhist period, was abandoned in accordance with the narrow dictates of reviving Hinduism.

Caste.

Pernicious prejudices against the majority of trades.

Manu's formidable list of castes includes all the non-Aryan races, and indeed almost all the known races of Asia. The Sakas, Pahlavas, Yavanas (Bactrian Greeks) and Chinese all figure in his pages as separate castes. His account of their origin is absolutely untenable, and

hardly deserves mention. But the trades and professions, which, as above noticed, were despised by him, are not regarded as separate castes. They still therefore formed part of the great undivided Vaisya caste, and as this involved their retention of the privilege of the twice-born to acquire religious knowledge, and perform religious rites, it is difficult to see why they met with such contempt. The community was no doubt crippled by the stigma cast upon so many useful professions, but as yet the evil effects of the caste system were less seriously felt than in Puranik times. The numerous profession-castes of a later and the present day were as yet non-existent as separate castes, with the result that for a Vaisya to pass from one profession to another was doubtless easier in the earlier centuries of the Christian era than it afterwards became. Disintegration had not as yet reached its highest pitch.

Professions did not yet form separate castes.

In the matter of sacrifice Manu sought to perpetuate the old Vedic rites which had been prescribed in the Brahmanas and Sutras. But the attempt was vain, for we know that the ancient domestic sacrifices (the grihya) at the householder's hearth, and the Srauta rites performed by priests, were fast falling into disuse, and being supplanted by the temple priests of Puranik Hinduism. The status of woman, as gathered from the Code, was still a high one, but the average marrying age for girls was being lowered and widow remarriage was becoming rarer. It certainly existed, as Manu testifies, but was now disapproved of by the orthodox. This disapproval, however, did not extend to virgin widows. Marriage between relations was rigidly prohibited, and the ancient custom of raising issue on a brother's widow seems to have fallen into disuse. A noteworthy fact is that slavery is recognised by Manu, and slaves are classified under seven heads, *viz.*, captives of war, those serving for daily food, slaves born as such in the house, slaves bought or given by others, slaves inherited, and men enslaved by way of punishment. Slavery was certainly a very ancient practice, and probably dates back to the earliest Aryan invasions when the aborigines were frequently enslaved after capture in war. Though Megasthenes denied its existence in India,* it had continued uninterruptedly throughout the Buddhist Period. Debt apparently was not one of the causes of slavery as in Ancient Greece and Rome, but female slaves could be pledged, like other property, by borrowers. With this brief notice of social conditions we shall pass to a consideration of religion in the Buddhist Age; the supremacy of Buddhism and the beginning of its decline.

Sacrifices.

Position of Women.

Slavery.

From the time of Asoka until the Gupta dominion the religion of Buddha was professed by the majority of people, and it alone has left prominent traces. Thus in the inscriptions, "three-fourths or more of the persons named, and the objects of donation specified, from Asoka's time to Kanishka, are Buddhist, and the majority of the remainder are Jain. From that time onwards the Brahmans, the gods they patronized, the sacrifices they carried out, receive ever-increasing notice till the position of things is exactly reversed, and in the 5th century A. D., three-fourths are Brahman, and the majority of the rest are Jain." The inscriptions then are the best witness to the growth and pre-eminence of Buddhism, followed by its gradual decline from the religion of a majority to that of a minority. During the period of Buddhist predominance we find the names of very few Hindu kings: most of the rulers belong to one or other of the invading races who inclined to Buddhism in its later form. Brahmanism, of course, continued to exist, but it occupied rather the position of a non-conforming sect, though only rarely a persecuted sect. The low ebb to which Brahmanism had sunk is proved by the fact that the period we have been speaking of has left no trace of a building or sculpture devoted to the use of the Brahmanic religion. Moreover, the few Brahmanic inscriptions that have been discovered are written in the Pali or the current Prakrit, instead of in Sanskrit, thus conforming to the deliberate Buddhist habit of employing a language intelligible to the people. While the inferiority of Brahmanism is indicated by the absence of architectural remains, the unquestioned superiority of Buddhism led to the construction of numerous buildings, of which a great quantity survive. Dr. Fergusson in his monumental *History of Architecture* pays great attention to the Buddhist remains. He classifies the works of the Buddhist Period under five heads:—

The ascendancy of Buddhism followed by a Brahmanical and Sanskrit revival.

Evidence of the inscriptions.

Buddhist architecture.

(1) *Lats* or stone pillars generally bearing inscriptions. Such were the stone pillars of Asoka, and the famous iron pillar at Delhi, which belongs to the period of Buddhist decline.

(2) *Stupas*, cupolas or topes, erected to mark some sacred event or site, or to preserve some supposed relic of Buddha. The Bhilsa stupas, of which the great Tope of Sanchi is the principal, are the most famous Buddhist stupas in existence, as well as probably the oldest. They can be ascribed to the times of Asoka, or his immediate successors.

(3) *Rails*, generally erected to surround stupas. They usually contain elaborate sculptured ornamentation and valuable inscriptions. Some are as old as the 2nd and 3rd centuries B.C.

(4) *Chaityas*, or churches. Most of these are excavated out of the solid rock, and the majority are in the Bombay Presidency. The great cave at Karli is the finest of all, but there are others of older date. Karli probably dates from the 1st century of the Christian Era, and the Chaityas of Ajanta and Ellora are a few hundred years later still.

(5) *Viharas*, or monasteries. The earliest monastic buildings were not of stone, but wood gave place to stone early in the Christian Era. Fine Viharas survive at Ajanta, Nasik and Ellora. They consist generally of a great hall with a verandah in the front, a sanctuary in the back, and cells for monks on

* See p. 22 above.

either side. Many of these, like the Chaityas, are excavated. The world-famous monastery of Nalanda, where Hiuen Tsang studied in the 7th century, has unfortunately perished. It was not merely a monastic institution, but the greatest Buddhist university.

After about the 5th century but few Buddhist buildings were erected, and the architectural genius of India found its expression in Hindu temples, which tended to become more elaborate and ornate until the eve of the Mohammedan conquest.

Changes in Buddhism.

Buddhism itself had undergone great changes before its ascendancy came to an end. The Primitive Buddhism, so suitable to India, with its union of practical ethics and religious speculations, necessarily underwent modifications when it came to be propagated amongst foreign people. Asoka's missionaries came into contact with Grecian culture. The Saka and Kushana kings came into contact with both, and incorporated Buddhist saints and Greek gods with their beliefs. While Buddhism with its universal toleration pleased them better than Brahmanism with its exclusive caste system, the pure Buddhism without deities gave no satisfaction. These people did not want a system of ethics, but gods whom they could see and to whom they could pray. So Buddha was gradually changed into a divinity, and the prevailing Greek art, *e.g.*, of Bactria, supplied his images, which hitherto had been unknown in Buddhism. The latter, once a select order of ascetic monks, now grew into a new popular religion with a pantheon of Buddhas and Bodhisattvas, and attendant deities and demons, whose images were adored in spacious temples, with pompous ceremonial and noisy festivals. This new Buddhism, as it embraced the whole people, was called the *Mahayana*, or 'the great vehicle' in contrast with the *Hinayana* or 'the little vehicle' of the primitive Buddhism, which had only been for a select few.* Those changes took place early in the Christian Era, and had been preceded by the adoption of elaborate pilgrimages and relic worship.† Some mention of the Mahayana form has been already made in dealing with the reign of Kanishka, who became the patron of the new Buddhism, just as Asoka had been the patron of the old Buddhism. The new form rapidly spread over India, and it was the Mahayana Buddhism which took root in China, Thibet, and other Eastern countries, while the Hinayana survived in Ceylon alone.

Mahayanism.

The well attested prevalence of Buddhism during the two centuries preceding and the two centuries following the birth of Christ, gradually gave way to that famous Brahmanical revival of which the Gupta kings were the most powerful agents. It became noticeable, however, as early as the second century, when Kadphises II was a devotee of Siva, and it was fostered during the 3rd century by the Saka Satraps of the West. The Gupta Emperors, who for the most part were zealous Hindus, and guided by Brahmans, strove to make this Hindu and Sanskrit revival a success, while at the same time they tolerated Buddhism and Jainism.

Brahmanical and Sanskrit revival becomes successful in 4th and 5th centuries A.D.

Samudra Gupta possessed learning as well as martial prowess, and it is probable that he and his great successor, Chandra Gupta Vikramaditya, deliberately set themselves the task of assisting the recrudescence of Brahmanical Hinduism at the expense of Buddhism, and of classical Sanskrit at the expense of the more popular literary dialects. But the new Hinduism was very different from the Brahmanic religion of the Epic and Rationalist Ages. Still more did it differ from the primitive Vedic religion of the early Aryans. The extensive Pantheon of the later Buddhism was drawn upon in the evolution of Puranik Hinduism, while non-Aryan superstitions contributed to the new faith a number of rites and beliefs which the pre-Buddhist Hinduism had never incorporated with itself. In the words of Sir William Hunter,* "Hinduism, that is latter-day Hinduism, the Hinduism of the Puranas and afterwards, is a social league and a religious alliance.

The later or Puranik Hinduism.

As the various race elements of the Indian people have been welded into caste, the simple old beliefs of the Veda, the mild doctrines of Buddha, and the fierce rites of the non-Aryan tribes, have been thrown into the melting-pot, and poured out thence as a mixture of precious metal and dross, to be worked up into the complex worship of the Hindu gods." The new Hinduism rapidly extended over the Deccan, and the Dravidian peoples of South India for the first time thoroughly adopted the religion of the Hindus. They seem to have been votaries of Buddha or of Jainism for several centuries, but had never completely accepted the Brahmanic faith in pre-Buddhist times. Gradually, then, the new Hinduism over-spread the Peninsula, until by the 10th century, if not before, Buddhism became extinct in India itself. Jainism, however, survived as a small and inferior sect, which had existed for centuries parallel to Buddhism, though it had never gained any great ascendancy.

Victory of the Brahmans.

The literary revival which accompanied this religious renascence is important because it produced some of the greatest masterpieces of the Hindu intellect. The language of the pundits, the classical Sanskrit, was elaborated from the old Brahmanic, or Second High Indian,† the language of the Brahmanas and Upanishads. But it was greatly enriched by words taken from the Pali and the vernaculars. It must have been silently developed by the priestly schools during the predominance of Buddhism, and was first used in inscriptions in the second century A. D., while from the 4th and 5th centuries onwards it became the literary language for all India. Thus the victory of the Brahmans was accompanied by the victory of the language of their sacred books. Just as the old religion became transformed and distorted almost beyond recognition to satisfy the popular taste, so the old language had perforce to incorporate popular elements to secure acceptance.

Classical Sanskrit.

Of the works of a religious or semi-religious character attributable to the close of our period, *i.e.*, to the beginning of the Sanskrit revival, the most important are the metrical legal treatises, such as the Code of Manu.

* Hœrnle and Stark's *History of India*. See also p. 28 above.
† See p. 18 above.

* *Brief History of the Indian Peoples.*
† See p. 15 above.

spoken of above,* and the three most ancient Puranas. The term *Purana*, signifying 'old,' applied originally to prehistoric, especially cosmogonic, legends, and then to collections of ancient traditions generally. The existing Puranas are partly legendary, partly speculative, histories of the universe, compiled for the purpose of promoting some special form of Brahmanical belief. Some teach the tenets of the Vishnuvite, others those of the Sivaite sects. For with the revival of Hinduism there grew up a great division of the people into Vishnaivas and Saivas, according as either Vishnu or Siva, both originally Vedic deities, were adopted as the Supreme God. But this division really only represents two different views of the same religion, a fact which is typified in the Indian Trinity of Brahma, Vishnu and Siva, the Supreme God in his three manifestations of Creator, Preserver and Destroyer. While this Trimurti, or Trinity, is recognised by the Puranas, they are of a distinctly sectarian character. They "include a mass of extraneous didactic matter on all manner of subjects, whereby these works have become a kind of popular encyclopedia of useful knowledge. It is evident, however, from a comparatively early definition given of the typical Purana, as well as from numerous coincidences of the existing works, that they are based on, or enlarged from, older works of this kind, more limited in their scope.†" The legendary lore incorporated in the Puranas is not always of a very authentic kind, for many fabrications were made in order to supply new rites and beliefs with the sanction of antiquity. Still the genealogical tables contained in some of the Puranas "contain much truth mixed up with a deal of falsehood. The invariable form of the Puranas is that of a dialogue, in which some person relates its contents, in reply to the inquiries of another.‡" The existing works of this class are eighteen in number. The most ancient are the Vayu, the Matsya and the Vishnu Puranas. These all contain dynastic lists and preserve much important historical tradition. The Vayu Purana is the earliest extant: it was probably compiled in the 4th century under the early Guptas. The Vishnu Purana, which treats very fully of early Hindu history and legend, the organization of caste, etc., was probably composed, or at least compiled in its present form in the 5th or 6th century A.D., while the Matsya seems to have been intermediate between it and the Vayu Purana.

The Puranas.

Their purpose and scope.

Some of them not without value in respect of historical tradition.

The Vayu, Matsya, and Vishnu Puranas.

Contemporary with the Puranas and the works on religious law (*e.g.*, the Codes of Manu and Yajnavalkya) there appeared works on sacrificial ritual. Of these the chief were the Bhashyas or commentaries on the Sutras of the Rationalist Age. "Since the sacrificial religion was being revived, the necessity of a definite and authoritative ritual was felt; and as the sacrifices had been out of use for a long time, knowledge of the ritual was rare and vague." Of this type of work a beginning was made in the early days of the Sanskrit revival, but the greatest Hindu commentators, Kumarila and Sankara Acharya, flourished in the Puranik Period.

Bhashyas on (*a*) sacrificial ritual.

The cultivation of philosophy in the Rationalist Period had, as above mentioned,* resulted in the elaboration of the six systems of Hindu philosophy. The earliest writings of these schools were contained in Sutra works, but in after times a great number of philosophical commentaries came to be written, just as commentaries were written on ritual and ceremonial. The two orthodox Mimansa schools had thundered in vain against the materialism of Kapila, and Buddha had conferred upon the Sankya system of Kapila a long supremacy by incorporating many of its doctrines in his popular religion. But the orthodox philosophy achieved its triumph with the revival of Brahmanism. Its greatest champions were Kumarila and Sankara Acharya, just alluded to, who combined the defence of Brahmanic ritual with the refutation of all heterodox philosophy. But one great philosophic commentary was certainly written before 500 A.D., that of Sabarasvamin on the orthodox philosophy of Jainism, the Purva Mimansa School.†

(*b*) Orthodox philosophy.

Among the scientific studies begun in the Rationalist or even in preceding periods, that of grammar was not the least important. Panini was now succeeded by Patanjali, whose date is fixed for the 2nd century B.C. Patanjali wrote a great commentary on Panini and his grammatical system, and he incidentally supplies a variety of information regarding the literature and manners of the period. He also makes important references to the Græco-Bactrian kings and the Sunga dynasty.

(*c*) Grammar. Patanjali.

The scientific works of the Puranik Age are far more exhaustive than those of the Buddhist Age, and our materials for the present period are unfortunately very incomplete. Foreign invasions and the contempt subsequently given to works elaborated under Buddhist influences, largely account for this poverty of material, so that it is by no means necessary to conclude that the intellectual life of the Hindus was suspended during the Buddhist Period. In the department of astronomy, however, we have ample evidence to show that considerable advance was made in this period. While astromony was studied with fruitful results in the Epic and Rationalist Ages, no separate astronomical works of those times have come down to us. The oldest which have been preserved or of which we know anything were composed in the Buddhist Period. Eighteen Siddhantas or astronomical works are spoken of by Hindu writers, and several of these are certainly attributable to the Buddhist Age. The earliest is that of Parasara, who flourished not later than the second century B.C. Next comes Garga, who must also have lived in the 2nd century. Both these writers make important historical references to the Bactrian Greeks,

(*d*) Astronomy.

Parasara and Garga.

* See p. 30 above.

† Julius Eggeling: *Sanskrit Literature.*

‡ H. H. Wilson: Preface to translation of the Visbnu Purana. Professor Wilson's Preface is full of illuminating matter, and the translation is the only complete English one of a Purana, up to date.

* See p. 16 above.

† See p. 17 above.

while Garga also alludes to the Sakas and Yueh-chi. Not later than the 4th century were written a series of astronomical treatises without accredited authors, and known as the Pancha-Siddhanta or 'The Five Siddhantas.' These works mark a distinct advance in the science, in that they adopt the latest discoveries of the Greek astronomers. In aftertimes important commentaries were written on these Siddhantas, and the greatest Hindu astronomers undoubtedly flourished in the Puranik Period. Eventually Hindu astronomy far surpassed that of the Greeks, and the fame of the Brahman astronomers spread westward, at last reaching Europe through the medium of Arab translations. As late as the 18th century Raja Jai Singh was able to demonstrate the great superiority of Hindu astronomy.

The five Siddhantas.

In poetry as in science, the Puranik Period is more prolific than the Buddhist Period. But the reduction to its present form of the great national epic, the Mahabharata, cannot have occurred later than the early centuries of the Christian Era. The beginnings of classical Sanskrit poetry are also certainly traceable to the later centuries of this age; several of the Gupta Emperors themselves practised poetic composition. Little work, however, clearly belonging to this period survives, unless we include the priceless compositions of Kalidasa, the greatest Sanskrit dramatist, who is now usually assigned to the end of the 4th century. If Chandra Gupta II be really the Vikramaditya of the inscriptions, then Kalidasa must have flourished at his court. The 'nine literary gems' associated with Vikramaditya need not all have been contemporaneous, as tradition often jumbles together places and things belonging to different times and places. Yet the assertion that Kalidasa was one of the nine is incontrovertible. The objection to assign so early a date to Kalidasa is that if he be anterior to the 6th century, the Hindu drama leaps suddenly to perfection and the early stages of its evolution are wrapped in mystery. But Shakespeare was, like Kalidasa, the greatest dramatist of his country, and yet dramatic composition in England hardly arose until after Shakespeare's birth. Such an objection then is not insuperable, and should bear small weight in comparison with the hypothetical probability of an early date for Kalidasa, based on a study of authorities and inscriptions. Kalidasa, besides endowing Hindu literature with its greatest dramas, the Sakuntala, the Vikramorvasi, and the Malavikagnimitra (based on historical incidents), wrote a series of short national epics, and some shorter poems which rival the best lyrics of the West for richness of fancy and melody of rhythm. The successors of Kalidasa in the drama and poetry, as also the Hindu works of fiction, will receive notice in our chapter on the Civilization and Literature of the Puranik Age.

Poetry and Drama.

Kalidasa.

Chapter V. The Puranik Period.

1. *Political History.*

The period between 500 A.D. and the first Mohammedan invasion in 1194 is known as Puranik because during this time the majority of the Puranas were written—the oldest only, as we have seen, came into being before this—and the new Hinduism, known as Puranik Hinduism, flourished almost uncontested. Jainism was feeble, Buddhism was rapidly becoming extinct, and the militant faith of Islam had not yet taken a firm root in Indian soil. The Brahmans had ultimately scored a complete victory. They had perforce to sacrifice much that was best in their religion and to father a creed which was of hybrid origin and not of Vedic simplicity, yet the order triumphed, and the priestly supremacy which had barely been established a thousand years before, when Buddhism arose to combat it, was now unquestioned. The Brahmans were at length the real masters of Hindu civilization, and it was now that under priestly domination the worst features of that peculiar form of civilization became apparent. The widespread acceptance of the Puranik faith with its rigid caste system and sad lack of elasticity produced an unwholesome social disintegration and intellectual barrenness which sapped the sturdy manhood of the nation, and laid India as an easy prey at the feet of the Mohammedan conquerors.

Decadence of Hindu civilization in this age.

What, however, prostrated the country still more was the political disintegration which marks the period. Large and powerful empires such as those of the Maurya and Gupta kings are a thing of the past. One glorious epoch there is, the reign of Harsha-vardhana; but it was lamentably short, nor did the empire of Harsha rival those of his greatest predecessors in point of size. Anarchical autonomy is the keynote of the period. The disruptive forces always existent in the East produced "their normal result, a medley of petty States, with ever-varying boundaries, and engaged in unceasing internecine war." Foreign invasion had in times gone by been the principal incentive to the establishment of a strong paramount power, and the disruptive tendencies of the Puranik Period were largely the result of a long freedom from foreign attack. The experience of these centuries, when compared with that of preceding periods, tends to prove that India's normal state is one of anarchy and that the establishment of a central despotism, whether the result of foreign attack or of other causes and whether that despotism be indigenous or not, is the only safe cure for the disruptive tendencies inherent in the country. When during the Puranik Age India was left to work out her destiny in her own fashion, she failed lamentably, and the period is a bewildering record of conflicting petty States, accompanied by decadence in government, literature, religion and art.

Political decadence.

The Buddhist Period closed amidst the bloodshed and destruction wrought by the savage inroads of the White Huns. Their attacks had hastened the disruption of the Gupta Empire, and the dominions of Skanda Gupta had been divided up into a number of separate kingdoms, all subject to the paramountcy of the Hunnic Emperors in the north. Of these separate kingdoms, those of Malwa and Magadha,

Disruption of the Gupta Empire.

ruled over by princes of the Gupta Family, achieved no importance, and in the case of Malwa at least, lasted only for a generation or two. But the Valabhi dynasty of Gujerat-Surashtra enjoyed a power hardly less great and extended than that previously held by the Western Satraps in the same region. The genealogy of this family has of late been elucidated by the discovery of numerous inscriptions, in one of which we have a complete list of the Valabhi kings from their beginning at the end of the 5th century, up to about 770 A.D. The people of this nation were rich and powerful when Hiuen Tsang visited India in the 7th century, but in the darkness of the 8th and 9th centuries they mysteriously declined. The Rajputs seem to have been their successors as the greatest power in Western India, and the Ranas of Udaipur trace their descent, though with questionable authority, from the Valabhi line.

The Valabhi kings, circ. 460—770 A.D.

We have spoken about a paramount Hunnic Empire in the north. At the close of the 5th century a vast Asiatic dominion was carved out by the White Huns. From the Chinese books we learn that in 519 A.D., a Chinese envoy visited the Hunnic Court, at a place unknown, and that the powerful monarch of the Hun confederation levied tribute from forty countries extending from the frontier of Persia in the west, to Khotan on the borders of China in the east. This mighty potentate is probably not to be identified with the Hun kings of India, Toramana and Mihiragula, but seems to have been their overlord. Toramana was the leader of the great Hunnic invasion which successfully subjugated Northern India prior to 500 A.D. He assumed the title of 'Sovereign of Maharajas,' and was succeeded by his son, Mihiragula, in 510 A.D. As that part of India which was subject to the Huns—broadly the northern part—formed only one province of the extensive Hunnic Empire, Toramana and Mihiragula, paramount as they were in the peninsula, ruled in nominal allegiance to their great overlord in Central Asia. Mihiragula was a blood-thirsty tyrant of the worst sort, and his cruelty stimulated the native rulers to form a confederation against him. This confederation, headed by Yasodharman, a raja of Central India, decisively defeated the hated tyrant, and drove him to seek refuge in Kashmir, where he usurped the throne of his benefactor, and ended his life amidst bloodshed indescribable.

The Hunnic Empire in Asia.

Hun kings of India. Toramana and Mihiragula, Circ. 500-528 A.D.

Circ. 528 A.D.

Yasodharman, who served his country thus worthily, is almost an unknown personage. He is not mentioned by Hiuen Tsang, and nothing whatever is known of his ancestry or successors. On two columns of victory he boastfully claims to have ruled over the greater part of India, but the evidence which will suffice to make good this startling claim remains to be discovered, and the importance frequently ascribed to Yasodharman seems to have been exaggerated. His victory over the Huns may have earned for him the title of Vikramaditya, 'sun of victory,' but we are scarcely warranted in assuming that he was the great Vikramaditya, the legendary hero in whose Court Kalidasa and his brother writers flourished. That honourable title and position must rather, as asserted in our last chapter, be associated with the more historical character, Chandragupta II.

Yasodharman.

The fall of the Hunnic power in India was shortly followed by the extinction of their great empire in Central Asia, and India henceforth enjoyed immunity from foreign attack for nearly five centuries. The latter part of the 6th century is nearly a blank as far as India is concerned, and no other paramount power seems to have existed until the Kanouj dynasty rose to greatness at the beginning of the 7th century.

Second part of 6th century a blank.

For the 7th century, on the other hand, we have, besides coins and inscriptions, the invaluable contemporary works, the travels of Hiuen Tsang, and the Harsha-Charita of Bana.* The oustanding event of the century was the temporary establishment of a paramount sovereignty in Northern India by the Rajas of Thaneswar, who were related by marriage to the Guptas. Thaneswar, or Staneswara, was that region to the west of the Jumna, where legendary Kurus were supposed to have lived of old. It was towards the end of the 6th century that the Rajas of Thaneswar rose to eminence, through successful wars against their neighbours, including the remnants of Hun tribes who had retained their settlements in the Punjab. Prabhakarvardhana was the first of these Rajas to obtain an extensive influence, and his son, Harshavardhana, who succeeded after the short reign of his elder brother, about 606 A.D., rapidly raised himself to a position of omnipotence in Northern India. His scheme of conquest was calculating and deliberate. With a large and well-organised host he waged war for the third part of a century and "went from East to West, subduing all who were not obedient: the elephants were not unharnessed, nor the soldiers unhelmeted." He fixed his capital at Kanouj, subjected all the North-West, made the powerful king of Valabhi a tributary, and carried his arms to the coast of the Bay of Bengal. Even Nepal submitted, and Harsha ruled as undisputed master from the Bias to the Ganges, and from the Himalayas to the Narbada. When, however, he attempted to subjugate the South, he met with complete failure. The sturdy Chalukya King, Pulekesin II†, frustrated all Harsha's efforts to penetrate the Deccan, and established himself as paramount lord of the South, so that Harsha enjoyed no authority at all beyond the great river Narbada. From the writings of Hiuen Tsang and that historical romance written by the poet, Bana, to eulogise his King, we can conjure up a sufficiently vivid idea of the administration of Harsha. The King was untiring in his energy, and trusted rather to his own zeal and ability in the supervision of his provinces than to any organized civil service. The civil administration was conducted on enlightened principles, taxation was not

Thaneswar Rajas.

Harsha Vardhana, 606—648 A. D.

His conquest.

Administration.

* See page 44 below.
† See page 39 below.

heavy, all compulsory labour was paid for, violent crime was rare, official records of public events were kept in every province by special registrars, and the Government made liberal provision for charitable purposes. The only blot on the administration is the cruel punishment meted out to prisoners. Sanguinary mutilation was all too common. Learning and literature flourished under the patronage of Harsha, and the King himself is credited with having written a grammatical work and three extant Sanskrit plays of considerable excellence.

Religious Policy.

In religion the Emperor seems to have consciously imitated Asoka. After a period of eclecticism in belief he became a convinced Buddhist and a devotee; he issued stern prohibitions against the destruction of animal life, and founded numerous stupas and monasteries as well as benevolent institutions, such as rest-houses for travellers and the sick. Though public disputations were held on religious differences, Harsha showed his special favour to the Buddhist pleaders, and Hiuen Tsang, the 'master of the law', became such a royal favourite, that any enemy who dared to touch or hurt him was threatened with beheadal, "and whoever speaks against him, his tongue shall be cut off." By such threats the Brahmans, not an inconsiderable party in the State, were reduced to silence, and had to bide their time until a King who knew not Buddha should arise. It is only fair to say that in the great quinquennial assemblies held by Harsha for the furtherance of religion, and the distribution of charity, images of Siva and the Sun were publicly set up after that of Buddha had been venerated, and gifts were bestowed not only upon Buddhists, but on Brahman and Jain priests as well as the poor of all religions. The Chinese pilgrim was present at one of these assemblies in 644 A.D., as well as at a great religious gathering held in the capital, when twenty tributary Kings attended on the Emperor and heard the Law of Buddha promulgated. On this latter occasion the jealousy of the Brahmans prompted a base attempt to murder the King, which, however, failed to take effect. Harsha lived till about 648 A.D., and his reign was followed, as it was preceded, by an almost total blank in Indian History. No sooner was the strong arm of the great King withdrawn than the country was plunged into disorder, and the Empire so rapidly built up as rapidly fell to pieces. Arjuna, a minister of the late King, usurped the throne. But

Arjuna.

having been foolish enough to massacre a peaceful Chinese mission, the usurper underwent a disastrous defeat at the hands of an allied army got together by the Chinese envoy, and was himself captured and taken prisoner to China. The Chinese Empire at this time enjoyed unparalleled prestige by the conquest of the Northern and Western Turkis, and pretty constant communications seem to have taken place between China and India through Thibet. After the defeat of Arjuna the annals of Northern India are silent, and

Yasovarman of Kanouj, 740 A.D.

the history of the country is wrapped in almost impenetrable darkness for about two centuries. One detached episode we have to record; the invasion of India by a powerful Kashmir King, Lalitaditya, about 740 A.D. He penetrated as far as Kanouj and inflicted a crushing defeat upon a certain Yasovarman, King of Kanouj. Doubtless Yasovarman inherited a portion of Harsha's extensive Empire, but he must have been but one of many Kings who asserted their independence upon the decay of the paramount power.*

When the curtain rises partially in the 9th, and more completely in the 10th century, we find new actors and new scenes. Buddhism is practically extinct, and a new and brave race, the Rajputs, have arisen from obscurity to claim the dominion of Northern India. The origin of the Rajputs has been the subject of considerable controversy. It is probable that they were a

Rise of the Rajputs.

mixed race, largely of foreign, *e.g.*, Saka, Kushana, and Hunnic nationality, grafted on to the Hindu stock, and gradually adopting Hindu civilization and religion. They were hardly reckoned as Aryan Hindus before the 8th century, but having once been admitted to the pale of Hindu civilization and religion, the new converts 'were fired with an excessive zeal to revive the religion they embraced.' They had little or no historical connection with Buddhism, and therefore no regard for Buddhist institutions. Consequently, where the native Hindu monarchs had refrained from persecution, the Rajput Kings and clans not seldom resorted to severe measures in order to establish more firmly the Hinduism they had so zealously adopted. The period of darkness which so closely resembles the Dark Age in Europe consequent on the fall of the Western Roman Empire, was followed by the rise to power of numerous Rajput Chiefs, the heads of warlike clans, and the determined champions of Puranik Hinduism.' When in the 9th century Indian History has once more some authentic facts to go upon, Rajput Chiefs are reigning over the greater part of the north, at Ajmir and Kanouj, in Malwa, and probably even in Bengal. Other Rajput dynasties came to the front in the 10th century, and almost constant warfare between these rival chiefs continued until the Mohammedan conquerors overthrew them in one common ruin. A continuous narrative is impossible, where so many separate units are concerned,

The States of North India to the end of the Puranik Period.

and the historian must needs content himself with briefly noting the fortunes of each state in turn according to a geographical rather than a chronological division. Such a method, moreover, besides being the only practicable one, will yield all the results required, since the period is singularly barren of important historical events. It will be convenient to begin with the States of Northern India, reserving those of the south and centre for separate treatment.

While the majority of North Indian States were

The Punjab.

now ruled by Rajputs, the outlying provinces of the west were subject to a variety of rulers, some of whom were foreigners. The Punjab, of which the history had been

* Another event which occurred during the first half of this century was the immigration of the refugee Zoroastrians from Persia. They settled chiefly in Gujerat, but their arrival was probably not regarded as an event of great significance. The wholly remarkable prosperity and influence of this small community at the present day was not foreshadowed by any writers 1,000 years ago.

more chequered than that of any other part of India, formed from the collapse of the Hunnic dominion, up to 880, part of a kingdom ruled by a Kabul dynasty known as Turki Shahis. The Brahman minister of the last of these kings usurped the throne and founded (880 A.D.) the so-called Brahman Shahi dynasty. After about a century their dominion was limited to the Punjab, and was finally overthrown by Mahmoud of Ghazni in 1021 A.D.

Sindh.

Sindh, of which the early history is very obscure, had as yet taken little part in Indian affairs. It was Aryanised in fairly early times and had been subsequently conquered by Alexander. It formed part of Asoka's extensive empire, but was outside the boundaries both of the Guptas and of Harsha. When Hiuen Tsang visited Sindh, it was ruled over by a king of the Sudra caste. In 712 A.D. an Arab expedition extinguished the native line, and for a time Sindh along with Multan formed a part of the great Abbaside Caliphate of Bagdad. This episode is important as being the first Mohammedan invasion of India. The year 871 A.D. however ushered in another period of independence, which lasted until Sindh and Multan, like the Punjab, yielded to the conquering might of Mahmoud early in the eleventh century.

Gujerat and Kathiawar.

When last they figured on these pages, Gujerat and Kathiawar were ruled by the powerful Valabhi dynasty. About 770 A.D. that kingdom became extinct with the death of Siladitya VI, the nineteenth king. Probably an Arab expedition from Sindh was responsible for this. The only important point to notice about these provinces is that in 941 A.D. the Solankhi or Chalukya Rajputs inaugurated a rule which endured until the end of the 13th century, when the country was annexed by Mohammed I Khilji.

Kashmir.

The beautiful valley of Kashmir has a complete history of its own, and possesses in the *Rajatarangini** a chronicle of surpassing interest. Kashmir, like Sindh, was outside the dominions of the Guptas and of Harsha, but it had formed part of the wider Maurya empire and had also been incorporated in the Kushana empire of Kanishka. The authentic chronicles of the country begin about the time of Harsha. Kashmir could boast of a long line of authentic kings, of whom, however, many were terrible tyrants. The country successfully resisted Mahmoud of Ghazni, but came under a local Mohammedan ruler in 1339. It did not form a part of the Mohammedan Indian Empire until the reign of Akbar.

Tomaras of Kanouj, circ. 830-1040 A.D.

In Hindustan proper a number of Rajput chiefs waged incessant war upon their neighbours, and about half a dozen at one time or another occupied a prominent position above their fellows. The first clan to distinguish itself in this region were the Tomaras, who held an important position from 830 to 1040. Kanouj was their capital and they even seem to have assumed imperial titles. But as other clans came to the front, the Tomara power diminished. The Chandel Rajputs of Bundelkand entered upon a fierce rivalry with their northern neighbours. About 910 A.D. all the Tomara possessions south of the Ganges were seized by the Chandellas. The warfare between the two Houses served the Tomaras badly in 1019 A.D. when Mahmoud of Ghazni met with a but enfeebled resistance and sacked the imperial town of Kanouj. Still further weakened by this blow, the Tomara dynasty was finally overturned in 1040 A.D. by the chief of the Gaharwar Rajputs. Ananga Pala, the Tomara king at the time, retained, however, a small principality in the West of his original kingdom and founded a fort and town at Delhi at the spot where the Kutb mosque now stands. The Tomaras continued to enjoy this modern principality for more than another century, until about 1170 A.D. in default of male issue the State passed into the hands of the Chauhan Rajputs of Ajmir. For four centuries the Chauhans had maintained their rule in Ajmir where they had ably defended the western marches of Hindustan. Prithivi Raja, the 25th of the line, was the king in whose person the lordships of Delhi and Ajmir were united. Famous alike as a bold lover and a gallant warrior, he ranks as one of the popular heroes of Northern India. He defeated a Chandella Raja and captured Mahoba, his capital, and for some time he confronted the Mussalman invader in 1191 A.D., as the head of a confederated Hindu host. But in 1193 A.D., Delhi succumbed to the stronger force and the native dynasty ceased to exist.

Foundation of Delhi about 1050 A.D.

Chauhans of Ajmir and Delhi.

The Gaharwar dynasty was founded by Chandra Deva, who overturned the Tomaras in 1040 A.D. It ruled a small territory North of the Ganges—between Kanouj and Benares—until the Mohammedan conquest. Jaya Chandra was the last of the line. Immediately after the capture of Delhi, Kanouj and Benares fell into the hands of the Moslems, and the dominions of the Gaharwars were annexed to the empire of Mohammed Ghori. The bulk of the clan migrated to the deserts of Marwar, where they became known as Rathors, and founded the existing principality of Jodhpur. The Chandellas of Bundelkhand (Jejakabhukti is the ancient name of the territory), like so many other dynasties, first appear in the 9th century, and by 910 A.D. had built up for themselves a considerable dominion by the conquest of certain Tomara territories, as noticed above. The reigning family distinguished themselves as builders, but being surrounded by hostile states with which they were constantly at war, they never rose to a pre-eminence like that achieved by several other Rajput Houses. King Dhanga (950-999 A.D.), who lived for more than a hundred years, and built some superb temples, was the most noted Raja of the Chandellas. The family suffered at the hands of Mahmoud the Iconoclast, and were finally overthrown in 1193 A.D. by a general of Mohammed Ghori. Notwithstanding, they lingered on as purely local chiefs for several centuries.

The Gaharwars of Kanouj 1040-1194 A.D.

Chandellas of Bundelkhand, 831--1193 A.D.

A people who were in close proximity to the Chandellas were the Kalachuris of Chedi. Chedi corresponded roughly to Berar and the Central Provinces. A Rajput family ascended the throne in 860 A.D. and

* See the monumental edition of Stein.

enjoyed the usual ups and downs of fortune until it mysteriously disappeared in 1181 A.D., a few years before the Mohammedan conquest of Northern India. Wars with the Chandellas occupied most of the attention of the Chedi dynasty, and though one King, Gangeya Deva, obtained something like a paramountcy over his neighbours in the 11th century (1015-1040 A.D.), this extended dominion was overthrown by a Chandella Raja in the time of his successor.

Kalachuris of Chedi, 860-1181 A.D.

An important contemporary power in the West were the Parmars or Paramaras of Malwa. This Rajput clan began to reign in the old city of Ujjain about the beginning of the 9th century. Like the other clans, they were involved in almost ceaseless wars with their neighbours. Still the state of Malwa was associated gloriously with the arts of peace, and many writers famous in the later Sanskrit literature flourished at the Court of the Paramara Kings. Amongst the most famous Kings were Harsha Deva, the fifth in descent, who greatly extended the dominions of his house, Munja, who, though a poet, fought ceaselessly and as a rule successfully against the Chalukyas of the Deccan, and Bhoja, the model Raja, a celebrated patron of learning and no mean author himself. He flourished in the 11th century, Munja and Harsha Deva in the 10th. The native line preserved the throne until the beginning of the 13th century, and although a Mohammedan dynasty succeeded it, Malwa remained a separate unit until its incorporation in the Mogul Empire in 1569.

Paramaras of Malwa, circ. 800—1200 A.D.

In the East of Northern India two dynasties tower over all others in this period—the Palas and the Senas. Early in the 9th century the Palas assumed possession of Behar and Bengal. Their origin is obscure, but the fact that they upheld Buddhism to the last, right up to the time of the Mohammedan conquest, argues against the theory of Rajput birth. A Brahman family, the Senas, who seem to have administered the Eastern part of the kingdom, asserted their independence during the 11th century, and ruled the territory East of the Ganges until the Mohammedan invasion. They completely stamped out Buddhism in their dominions and eventually brought Northern Behar under their domination.

Palas and Senas in Behar and Bengal.

Both Palas and Senas were, however, swept away in 1193-94 A.D. by one of Mohammed Ghori's generals, who met with the feeblest opposition from the native dynasties.

Nepal alone amongst the outlying states in this part of India preserved its independence throughout the Mohammedan period. Having formed a part of Asoka's empire and been tributary to the Guptas and to Harsha, it definitely established its power in the 9th century and with slight changes has retained both Buddhism and its native rule until the present day. But throughout the middle ages its history is merely of local importance, and need not here be noticed. Orissa will be more conveniently classed along with the Kingdoms of Central India.

Nepal.

The Kingdoms of Central and Southern India.

Apart from the pre-eminence of the Andhra dynasty during four* centuries little is known about the early history of the Deccan or the great central Table-land. The blank which succeeded the fall of the Andhras lasted for some three centuries, until the great Chalukya dynasty, apparently a Rajput family, rose to power early in the 6th century A.D. The Kingdom of the Chalukyas was rapidly extended throughout Central India, and Pulekesin II carried his arms successfully to Rajputana in the North and the Coromandel coast in the East. The Pallavas† were overthrown by this aggressive monarch, the kingdoms of the extreme South acknowledged his supremacy, and the great Emperor of the North, Harsha Vardhana, was foiled in all attempts to penetrate Maharashtra. Courtesies were exchanged with the King of Persia, and Hiuen Tsang was much impressed by the greatness of Pulekesin. But his career of conquest was at last brought to a stop by the Pallavas of the East Coast. Constantly defeated by him, and driven out of Vengi by the force of his arms, they at length turned the tables upon their conqueror, overthrew Pulekesin, and reduced the Chalukya power to a condition of vassaldom. For a century the struggle between the two Kingdoms continued: at one moment the Chalukyas reasserted themselves, at another the Pallavas obtained the ascendancy, until in the middle of the 8th century, the Rashtrakuta family fought their way to the front and obtained the sovereignty of the Deccan. For two and a quarter centuries this dynasty remained supreme. But though the main branch of the Chalukyas became extinct, there survived in the East of the Deccan what is known as the Kingdom of the Eastern Chalukyas founded in 630 A.D. by Vishnu Vardhana, the younger brother of Pulekesin II. The Chalukya Emperor had after the conquest of Vengi, early in his reign, established his brother as Viceroy of that district on the East Coast between the Kristna and Godaveri rivers, and his brother had shortly afterwards asserted his independence and founded a Kingdom which retained an unbroken existence until 1070 A.D., when it became merged in the great Chola Empire.

The Chalukyas of the West.

Pulekesin II, 608—942 A.D.

Wars with the Pallavas, 608—750 A.D.

The Eastern Chalukyas, 630—1070 A.D.

The Rashtrakutas, a family of considerable antiquity, who succeeded to the Western Chalukyas in the Deccan, engaged like their predecessors in constant warfare with the neighbouring States. Nasik was for a while their capital, but about 800 A.D. the centre of their power shifted more inland. Govinda III, the sovereign at the time, was the most remarkable figure of the dynasty. He extended his power from the Vindhyas in the North to Kanchi in the South, an Empire little less extensive than that of the great Pulekesin had been. Govinda's successors waged long and not altogether successful

The Rashtrakutas, 750—973.

* See p. 25, above.
† See p. 41 below.

war with the Cholas and the Eastern Chalukyas. Throughout this period Buddhism steadily decayed, and although the Jains made considerable progress under Rashtrakuta patronage, Puranik Hinduism was more and more the prevailing religion of the country.

The Chalukyas of Kalyana, 973—1190 A.D.

The Empire of the Rashtrakutas in its turn began to wane, and in 973 A.D. Taila, a descendant of the old Chalukya dynasty, succeeded in regaining the supreme power. He founded a dynasty known as that of the Chalukyas of Kalyana (in Haiderabad), which also lasted for two centuries and a quarter. All the ancient territory of the Chalukyas was recovered by Taila, with the exception of Gujerat. But the kingdom under his successors enjoyed a very chequered existence, being constantly at war with the growing Chola power, and frequently defeated by it. Thus in 1000 A.D., Rajaraja the Great overran the country with fire and sword, destroying without compunction men, women and children. The last powerful prince of this Chalukya dynasty was Vikramanka, and his death in 1126 A.D. was followed by the decline of the dynasty, the Kingdom being absorbed about the year 1190 A.D. by the Yadavas of Devagiri in the North and the Hoysalas in the South. The centre of the latter's power lay in Mysore, that of the former's in the Western Ghats. Both dynasties succumbed to the Mohammedans early in the 14th century, and their doings are hardly notable enough to demand attention in this place.

The Hoysalas and Yadavas: important from 1190-1310 A.D.

The dynastic changes we have catalogued above are not of any great importance in themselves: but they form a canvas on which a complete history of Central India may perhaps some day be painted. At present the later Hindu period is the darkest period of Indian history, and the least instructive. Moreover, the vicissitudes of the Deccani dynasties are even less important than those of the Northern Kingdoms. Throughout Indian history the more important events have taken place in the North, and it is for this reason that notice of the Deccan so slender as this will prove sufficient.

The dynasties of Orissa.

Orissa, although now linked with the fortunes of Bengal, belonged of old rather to Central than to Northern India. A part of the early Kingdom of Kalinga, it had been conquered by Asoka; had later reasserted its independence, then came under the Andhra Kings, and during the last portion of the Buddhist Period was ruled over by a dynasty called Yavanas. This term, though it generally means 'Greeks' or 'Foreigners' may simply have been applied to a dynasty which introduced Buddhism, for in districts where the old Hindu beliefs were cherished, the Buddhists were often known by this uncomplimentary name. About 474 A.D. the Buddhist Kings came to an end and were succeeded by the Kesari or Lion dynasty, which introduced Puranik Hinduism, and reigned for six centuries and a half. The glorious groups of Orissa Temples, of which those at Bhuvanesvara, the capital, are the most elegant, belong to this period. A dynasty, probably of Bengalee origin, and known as the Gangetic line, succeeded to the throne of Orissa in 1132 A.D. They were ardent votaries of Vishnu, as their predecessors had been of Siva, and they retained their power with varying fortunes until the inevitable Mohammedan conquest, which, however, did not take place until the middle of the 16th century, later than the overthrow of the other Native States in the north and centre.

The history of the Kingdoms in the south of the Peninsula is, if possible, still more meagre as regards its early periods. A great mass of inscriptions exist, but with few exceptions they suffer from the taint of modernity, and little accurate information is available for the centuries earlier than the 10th of the Christian Era. This portion of India seems to have early achieved a considerable civilization under the Dravidians, but it lay quite outside the scope of the earlier Hindus, and consequently is but seldom referred to in the sacred books. The three traditional Kingdoms of the South were the Pandya, the Chola, and the Chera. The two first of these were known to Asoka in the 3rd century B.C., and Buddhist missionaries were despatched to the foot of the Peninsula by that zealous King. The Aryan civilization and ideas had probably penetrated to the South during some part of the Rationalist Age,* but the exact amount of Aryan influence there obtained is as uncertain as the exact date of its first appearance. Probably the pre-Buddhistic Hinduism took little root in the South of India, and the Dravidian religious ideas, like the Dravidian languages, held their own. The languages, Tamil and Telugu, have survived to the present day, but the indigenous beliefs succumbed first to Buddhism and Jainism, then to Puranik Hinduism. A foreign race, the Pallavas, early gained a footing in the South, and although their antiquity cannot compare with that of the three traditional Kingdoms, their authentic history is older. Some account of it shall be given in due order.

The Dravidian Kingdoms of the South and the Pallavas.

Perhaps the most ancient of the Dravidian Kingdoms of the South was that of the Pandyas. It was situated in the extreme South, and occupied, roughly, the modern districts of Tinnevelly and Madura. It was a flourishing Kingdom for some centuries before the Christian era, and was ordinarily divided into five principalities. The seat of the capital was twice changed, and was finally fixed at Madura. The Pandyas enjoyed the exclusive monopoly of the pearl fishery and carried on extensive commercial dealings with the Western world. A Pandya King seems to have sent an embassy to Augustus Cæsar, and a quantity of Roman coins have been unearthed at Madura and other places. But no continuous history of the Kingdom is possible before the 12th century A.D. From about 1000 A.D., when the Pandyas in common with the other Kingdoms of the South were overthrown by the Chola Emperor Rajaraja the Great, until the middle, at least, of the 12th century, the Pandya Kingdom was in the position of a tributary State. But from the end of the Chola supremacy until the middle of the 16th century the records are most numerous and the dynastic lists fairly exact. A Sinhalese invasion in 1175 A.D. and the sack of Madura by a Mohammedan host in 1310 A.D. are the two events of outstanding importance in this period. In the latter year the Pandyan dominions, like nearly

The Pandya Kingdom.

* See p. 12 above.

all the other kingdoms of the South, were subverted by the Moslem general Malik Kafur. The period which ensued is almost a blank in the History of Southern India, "Mussalman governors, representatives of the old royal families, and local chiefs being apparently engaged for years in violent internecine struggles for supremacy."*

The Chola Kingdom.

The Chola country lay along the East Coast between the realm of the Pandyas and Madras, and also included most of the modern State of Mysore. It was an independent kingdom at the time of Asoka, but its history at this early date is a total blank.

The boundaries seem to have been subject to much variation, for at one time Kanchi was the seat of a Chola King, at another it was the abode of the head of the Pallava confederation, who after their arrival, perhaps at the very beginning of the Christian era, obstinately contested with the Cholas the supremacy of the South. What is known as the Chola country was disputed with varying fortunes by the Pallavas from the 2nd to the 9th century A.D. From the time when the Chola Rajas began to regain their authority—about 860 A.D.—up to the middle of the 13th century we have now a fairly complete list of Chola Rajas, and some knowledge of their doings. Wars with Ceylon, the Pallavas, and the Rashtrakutas took place in the 10th century; and at last there arose a King, Rajaraja the Great, who became unquestionably the Lord Paramount of the South. The Pallavas had already been reduced to complete dependence, and Rajaraja, who inherited their quarrels with the more Northern Kingdoms, completely defeated the Eastern Chalukyas and added Kalinga to his territories. Having built a powerful navy, he subdued and annexed the island of Ceylon, and he must have reduced the Pandya Kingdom to the position of a tributary State. He it was who built the magnificent temple at Tanjore, the walls of which are gloriously engraved with the story of his victories. The successors of Rajaraja were as militant and successful as himself, but with the advent of the 12th century the Chola power began to decline. The Pandyas regained their independence; a new dynasty of mixed Chola and Chalukya race arose in Vengi, and the Hoysalas became prominent in Mysore. Though the Chola Kingdom survived the Mohammedan invasion of 1310 A.D., its chiefs only retained a local importance; they continued to exist as late as the 16th century, but only as feudatories of Vijayanagar. The capitals of the Chola Kingdom had been first Kanchi, and then Tanjore. The sacred city of Kanchi (Conjeeveram) enjoyed the widest repute for learning and Sanskrit literature during the Puranik Period. It was a flourishing town when Hiuen Tsang visited the South of India.

Contest of Cholas and Pallavas, 2nd—9th century A.D.

Decline of Chola Kingdom.

The third of the traditional Kingdoms of the south was Chera, which lay along the Malabar Coast from the South of modern Travancore to Coimbatur. The Northern part of this region appears later under the name of Kerala, but many philologists assert that the names of these Kingdoms are identical. In any case their records are deficient, and they played no ascertainable part in the wide field of Indian Political history.

Chera and Kerala.

This brief sketch of the Southern Kingdoms in early and mediæval times may be concluded by a few references to the Pallavas. The importance of this race in the Political history of South India has only of late years been recognised, but the industry of archæologists has now made it possible to write an outline of Pallava history from the 2nd to the 10th century A.D. On etymological grounds it is fair to assume the connection of the Pallavas of the South with the Pallavas of West and North, who invaded India early in the Christian Era, and were defeated by the Andhra King Vilivayakura II.* How, if this connection be a fact, an offshoot of the invading tribe found its way to the South, we do not know; but in the 2nd century A.D. the Pallavas were already a ruling race in the South-East of the Peninsula. They had adopted Hinduism, and they formed a confederation of three separate principalities, the King at Kanchi generally occupying the position of over-lord. Though the Pallavas were defeated by Samudra Gupta in the 4th century, they had supplanted the Chola Kings in the South-East, and had penetrated through Mysore to the Malabar Coast. From 575 to 770 A.D. a complete Pallava genealogy has been reconstructed. During this period almost incessant war raged between the Pallavas and the Chalukyas. Although Vengi, the seat of the Northern Pallava principality, was definitely lost, and became the capital of the Eastern Chalukya Kingdom, the great war with the Western Chalukyas, Pulekesin II and his successors, not seldom turned in favour of the Pallavas of Kanchi. The struggle was continued with the Rashtrakutas who supplanted the Chalukyas in the middle of the 8th century.† When the Rashtrakutas themselves passed into oblivion, the Pallava power, though weakened, still existed in the South, but the rising fortunes of the Cholas under Rajaraja the Great, at last put an end to the independence of the Pallavas. For eight centuries the intruders had lorded it over the Cholas, rightful possessors of the soil: but henceforth the Pallava Rajas held no more than a limited feudatory position under the Chola Kings, and this they seem to have retained until the 13th century. The nature of their dominion, a rule super-imposed upon the legitimate territorial Kingdoms, their confederation system, and their habit of levying blackmail, warrant a fairly close comparison between the Pallavas of the Hindu Period and the Mahrattas of a later day.

Pallava Dominion, 2nd to 10th century A.D.

II. Religious, Social and Economic conditions.

The most complete picture of India in the early Puranik Period which we have is contained in the account of Hiuen Tsang, the Chinese traveller, who journeyed across the length and breadth of the land slightly before the middle of the 7th century. He came as a Buddhist pilgrim to visit the Buddhist sacred places and to study the sacred books; but during his stay of 15 years he studied and observed

Travels of Hiuen Tsang. 629—645 A.D.

* Sewell's *Dynasties of Southern India.*

* See p. 25 above.
† See p. 39 above.

contemporary conditions with such effect that his *Travels* throw a flood of light upon what would otherwise be a very dark period of Indian history. Much of what we know about the great Emperor Harsha is derived from the Chinese traveller, and from the same source we can gather much valuable information concerning the manners and customs of the time. Passing through Afghanistan, where Buddhism had degenerated into a low idolatry, he arrived in Kashmir where Hinduism and Buddhism were flourishing side by side. Thence he journeyed through Northern India from the Punjab to Bengal. Kanouj, the capital of the Northern Empire, was a city of great wealth and extreme magnificence. Though Harsha was a zealous Buddhist, the people were almost equally divided between the two religions. The traveller was present at one of the great quinquennial assemblies which the Buddhists held at Kanouj. The gorgeous processions and idolatrous pageantry were of a kind unknown in the days of early Buddhism. On these occasions the King scattered his largess freely among the people. Proceeding past the cities of the Ganges, of which Allahabad and Benares, both staunch centres of Hinduism, were the chief, the pilgrim arrived at Magadha, the holy land of the Buddhists. Pataliputra had crumbled into ruins, but the country abounded in Buddhist monasteries and sanctuaries. The magnificent temple of Gaya and the vast monastic university of Nalanda were the most impressive buildings in India. Hiuen Tsang remained five years at Nalanda, studying the Buddhist scriptures and the literature of the Brahmans. Toleration being the most striking feature of Buddhism, it is hardly surprising to find that this great religious institution attracted Brahmans as well as Buddhists and offered facilities for the study of that religion which was its greatest rival. From Magadha Hiuen Tsang journeyed to Bengal, and thence towards the South of India through Orissa, where Buddhism was still the prevailing faith, and Kalinga, which was now of inferior importance and overgrown with jungle. Passing through the newly established Kingdom of the Eastern Chalukyas, the nucleus of the ancient Andhra Empire, he arrived at Kanchi, one of the finest cities of India. This old Chola city was now in the hands of the Pallavas, but Buddhist monks and monasteries still abounded there. The disturbed condition of the South, and of Ceylon, induced the traveller to turn West from this point and he journeyed along the Western Ghats to Gujerat and Malwa through Maharashtra, where Pulekesin II then held sway. Through most of Western India, as in the valley of the Ganges, Hinduism was the prevailing religion, although Buddhism was by no means extinct. On the whole there is no doubt that Buddhism was declining in India, and the new form of Hinduism, Puranik Hinduism,* rapidly taking its place. Buddhism had grown corrupt: the spirit of the faith was dead, and it had sunk to the level of an idolatrous system, taking delight in ceremonial and outward forms. An impersonal religion and an ethical faith, such as Buddhism originally and essentially was, could not permanently satisfy the superstitious longings of the illiterate masses. This practical defect explains the rise of the later or Mahayana form of Buddhism, which gave to that religion a fresh lease of life and popularity in India. But when once Buddhism began to make concessions to idolatry and superstition, it was doomed to failure. The Brahmans were far more skilful at such compromise, and Hinduism in their hands was far more adaptable. And the priesthood found able coadjutors in the Kings. What the Gupta Emperors began, the Rajput Rajas concluded. Hence the Hindu faith, transformed to meet the needs of the moment, and skilfully incorporating the more popular aspects of Buddhism itself, came at last to satisfy the conservative instincts of the Hindus more completely than its rival. Buddhism, which had lost its unquestioned predominance as early as the 4th century, and which was steadily declining in the 7th, had sunk to a position of absolute insignificance by the 10th, and was completely eclipsed by the 12th century.

Decline of Buddhism.

Buddhism one of the constituents of Modern Hinduism.

The Puranik Hinduism, which had thus established itself so firmly before the advent of the Mohammedans, differed greatly from the simple Vedic faith, both in doctrine and observance. The elemental gods of the Veda, to whom alone sacrifices had been offered, were ranked together as minor deities by the Puranik faith, and almost entirely ceased to be the object of propitiation by sacrifice. The Supreme Trinity,—Brahma the Creator, Vishnu the Preserver, and Siva the Destroyer —supplanted Indra, Agni, Varuna, and their colleagues. The Vedic gods have not only taken a lower place in the modern Hindu faith, but their attributes and nature have undergone change, and a host of new deities has been elevated to a position of equality with them. The three supreme gods were recognised in a number of separate incarnations. Thus Rama and Krishna, semi-mythical Indian Kings, were worshipped as incarnations of the great god Vishnu. Wives also had to be found for the gods, more especially the Trinity, and this necessity accounts for the appearance of new goddesses, such as Lakshmi and Kali. Legends and tales innumerable anent these gods and goddesses were manufactured by the priests and incorporated in the Puranas. Then a further development in belief took place. Owing to the difficulty experienced in worshipping three several deities, sects arose within Hinduism, with the purpose of emphasizing one or other of the supreme gods almost to the exclusion of the rest. While the more spiritual of the Brahmans fixed their minds upon the idea of oneness in the deity in the person of Brahma, the less cultured classes tended to worship either Vishnu or Siva as the Supreme God. Those who elevated Vishnu to this position were called Vishnavas, and those who paid their respects almost exclusively to Siva, were known as

Nature of Modern Puranik Hinduism. Doctrinal differences between it and the Vedic faith.

Formation of sects among Puranik Hindus.

* It is to be noticed that the decline of Buddhism was gradual, and on the whole peaceful. Little persecution took place, and that was sporadic.

Sivaites.* The latter by the reverence they showed to the *Linga* as the symbol of their deity earned also the name of Lingayats, by which they are generally known to-day. But it must be remembered that these sects are nothing more than sects. "They represent only two different views of the same religion—one more tender and refined, the other (the Sivaites) more coarse and passionate." As regards observance, the main difference between the Vedic and the Puranik faith, is the absence of image worship in the first, and its widespread adoption in the second. Temples and idols were alike unknown in the days before Buddhism appeared in India: they were both the legacy of that religion after its decay. The custom of offering libations on the domestic hearth, peculiar to the Vedic religion, now gave place to gorgeous temple observances, which increased the importance of the priests, and diminished the privileges of the laity. Religious rites and knowledge became more and more the monopoly of priests; the land was crowded with Brahmans and with temples; ceremonies and pilgrimages were organized on a gigantic scale, and on every such occasion gifts were lavished on the priests, who thus fattened on the ignorance and blind veneration of the multitudes.

Differences in observance between the Vedic and Puranik religions.

The triumph of Hinduism involved the triumph of caste. And here a difference is noticeable between the social conditions in the early, and those in the later, Puranik Period. The testimony of the Dharma Shastras, from the time of Yajnavalkya to the dark ages of the 8th and 9th centuries, proves that the first three castes were still entitled to the performance of religious rites and to the study of the Vedas, while even the despised Sudras practised at least some inferior Hindu rites. But, when Alberuni† wrote in the 11th century, the Vaisyas were fast degenerating to the rank of Sudras, and had been deprived of their ancient heritage of religious learning. So great was the social and religious revolution which had taken place since the time of Manu, and even since the time of Yajnavalkya! The unhappy Vaisyas were henceforth given new names according to their professions, and relegated to the bottom of the social list under the head of mixed castes, like the aborigines of old.

Growing severity of caste.

A similar degeneracy is apparent in the position allocated to woman, and in the matter of marriage. Although the absolute seclusion of women was unknown until after the Mohammedan conquest, their status was becoming steadily lower, and there is even a marked difference between the early and the later Puranik Period in this respect. Early marriage was commoner in the 5th century A.D. than in the 5th century B.C., but it was not yet universal, if we are to believe the poets. Again, women wrote and read, played music, and amused themselves by painting. Widow remarriage had been dying out for centuries, but the custom was not yet extinct. But by the end of the Puranik Age widow remarriage was absolutely prohibited, and widows had either to live and face ill-treatment for the rest of their lives, or mount the funeral pyre. The practice of Sati had been gaining gradual approbation for centuries, and it was now at length universally recommended, though it was never universally practised. It is first mentioned in the Puranik Literature, although suicide in case of unsupportable grief, whether of male or female, had been occasionally indulged in from the very beginning of Hindu history. The widespread adoption of suicide in the case of widows—under the name of Sati—affords ample proof of the inferior position now ascribed to woman. Such a barbarous custom was only possible when the respect due to woman for her own sake had been lost. On the other points the position of woman had changed for the worse before the 12th century. Child-marriage was becoming more popular, and men no longer married women of inferior castes.

Decline in the status of Woman.

Sati.

Much interesting information about manners and customs can be gleaned from the Dharma Shastras of the period, as well as from the later poets of the Sanskrit revival. We find depicted in the dramatic literature of the time some pleasing pictures of domestic life: still they are clouded by the lack of an independent existence conceded to women. Complete lists of domestic ceremonies are to be found in the law books: every important event in a man's life from his birth onwards was regulated by religion. The basis of these rules is to be found in the Sutras of the Rationalist Age, but the tendency was for them to become more numerous and complicated as time went on. The rules laid down for civil and criminal law and administration are so similar to those noticed in preceding chapters,* that no further attention need be paid to them in this place. Alberuni tells us that ⅛th of the produce of the soil was due to the ruler; and labourers, artisans and traders paid taxes calculated on their incomes. Only Brahmans were exempt from all taxes.† Immunity from capital punishment was another Brahmanic privilege which was still insisted on. The population seems to have still been addicted to gambling, while at the Courts of Kings drinking and immorality were all too common. The wealthy were still a comparatively small class, and they inhabited luxurious palaces in the great towns, besides possessing extensive villas and gardens in the suburbs. Ujjain was an even larger and more prosperous city than Kanouj in the period we are describing. The progress of the sciences was considerable during the earlier centuries of the Puranik Period, and will be noticed in the following section. Arts and industries also flourished, particularly architecture, but the contempt shown by the upper castes for all manual workers inevitably prevented such higher progress in the arts as can only be obtained when intellect and manual skill work hand in hand. Gorgeous temples arose on all sides. Peculiar styles of architecture became associated with the North, the Deccan, and the South, but these works shine rather by

Domestic Rules.

Law and administration.

Amusements.

Arts and Industries.

Architecture.

* Siva-worship became popular rather earlier than Vishnu-worship. The evidence of literature and architecture is especially valuable in this connection. The most popular form of Vishnu-worship was the cult of Krishna, an incarnation of the Preserver.

† See Note below.

* See pp. 13, 30 above.

† Alberuni's India, ch. LXVII. The book was written in 1030 A.D.

reason of their beauty in sculptured detail and minute ornamentation than by any grand conception of design. The temples of Madura, Tanjore and Tinnevelly are amazing for their endless detail, and their decorative skill, but the creative intellect which reigned supreme in Greece, and alone could supply the masterpieces of design, was rarely possible in India where on religious and caste grounds intellect was divorced from the fine arts. But in their own sphere the decorative artists of India have ever been unrivalled for their skill. Along with merchants and bankers there flourished in the great towns capable workers in stones and metals, jewellers, embroiderers and carvers. "These artists found a market all through the known world, and the products of their skill were appreciated in the Court of Haroun-al-Raschid in Bagdad, and astonished the great Charlemagne and his rude barons who, as an English poet has put it, raised their visors and looked with wonder on the silks and brocades and jewellery which had come from the East to the infant trading marts of Europe."

Divorce of intellect from the fine arts in India.

(*III.*) *Literature and Learning.*

The present period was exceedingly prolific in religious literature, although for the most part the works of that nature composed after 500 A.D., lack the authority of the earlier and more sacred books. The majority of the Puranas belong to this epoch, as the name given to the period shows; yet the more authoritative Vayu Purana, the Matsya and perhaps the Vishnu Puranas were compiled in the Buddhist Age.* Similarly with the Dharma Shastras. About sixteen were written in the Puranik Age, but all yield in importance to the greater work of Manu, composed, as we have seen, in the Buddhist Age. Probably also the Code of Yajnavalkya, frequently alluded to above, was written in the 4th or 5th century. In any case he is later than Manu. Some of the others, which in their present form date from Puranik times, were, doubtless, recast editions of earlier works. They were recast to suit the changed beliefs and practices of the times, and accordingly they may with justice be used as sources for the religion and law of the Puranik Hindus. They are more valuable in this respect than the bulk of the Puranas, which underwent considerable change after the Mohammedan conquest.

Puranas and Dharma Shastras.

The wonderful development of poetry and the drama, which accompanied the Sanskrit revival under the Gupta Kings, continued its course until the dark centuries of the Puranik Age. Thus, some of the greatest names in Sanskrit literature belong to the 7th and 8th centuries. Kalidasa had a host of worthy successors, who more or less consciously moulded their works on his. The cultured Harsha attracted to his court a circle of learned men. He himself was the reputed author of the two great 7th century plays, the *Ratnavali*, or 'Necklace,' and the *Priyadarsika*, or 'Gracious Lady.' Some literary critics ascribe the first, at least, to Banabhatta, more commonly known as Bana, author of the *Harsha Charita*, 'A Life of Harsha.' Whether these plays can really claim a royal authorship or not, their merits in spite of plagiarisms from Kalidasa are undeniable. The first is a love play, in which the passion of a king for a hand-maiden of his queen is beautifully described. The second is likewise a romantic drama, and describes the progress of a royal love affair. It is especially interesting, in that Hindu gods and goddesses are mixed up with Buddhist objects of veneration. Such a blending of belief and objects of worship was, we know from other evidence, common enough at the time.

The Drama.

7th Century. Harsha and Banabhatta.

A contemporary of Harsha and Bana was the eminent Bhartrihari, equally great as grammarian, philosopher and poet. His most famous work in verse is the *Niti Sataka*, or 'One Hundred Verses on Conduct.' The moral truths therein conveyed were especially valuable in an age of growing formalism and ceremonial.

A century later there arose Bhavabhuti, a native of Berar, and next to Kalidasa, the greatest dramatist of India. Despite his fantastic and highly artificial style, he overwhelms by his power of portraying the weird. In the Court of the Kashmir King who had overthrown Yasovarman of Kanouj, Bhavabhuti wrote his masterpieces. Those preserved to us are the *Malati Madhava*, 'The loves of Malati and Madhava,' the *Madahavira Charita*, 'The story of Rama's Early Life' and the *Uttara Rama Charita*, dealing with the remainder of that hero's life. This dramatist, while his incidents and plot are unnatural and extravagant, displays a matchless power of description, together with a pathos and tenderness hardly inferior to that of Kalidasa. Above all, he excels in the weird. In the *Malati Madhava*, for instance, he "conjures up scenes that seize the imagination with a reality more vivid, and a spell more weird and uncanny than even the witch's scene in Macbeth or the Walpurgis Night in Faust."* This play is moreover valuable for the light it throws on certain phases of the more obscure superstitious rites of Hinduism, the Tantric practices of the Saktas, or worshippers of the creative side of each deity, personified in a female form.

8th Century. Bhavabhuti.

Finally, we may notice a play of unknown authorship and date, but which has with some credibility been ascribed to a period slightly anterior to the age of Harsha. This is the Mrichchhakatika, or 'Mud Cart,' a play dealing, not with the exalted loves of princes and princesses, but with men and women in the ordinary walks of life. Mingled with the Sanskrit are the various Prakrit dialects, different characters being represented as speaking the different vernaculars belonging to Northern India.† The play differs essentially from all other plays of the classic period. In its dramatic interest, in its realistic view of life, in its humour and raciness, it is unique in the literary history of India. It is eminently dramatic, and has been acted with success in Europe, a test which no other classic drama of Indian literature is capable of supporting. Moreover, it throws much light upon the history of the people in those far-off days, revealing the different types of character as men of living flesh and blood, and

The Mrichchhakatika.

* See p. 34 above.

* Frazer's *Literary History of India*, p. 289.

† Sanskrit was already giving place to the Prakrits, the ancestors of the present day vernaculars. From the rise of the Rajputs onwards, Sanskrit gradually sank to the position of a dead language, such as Latin holds in Europe.

affording an interesting commentary on the police and judicial systems of the time, the manners and occupations, particularly the amusements, of the people.

Few other Sanskrit plays are still extant, and those of inferior merit. But there are a number of *Mahakavyas* or short epics, belonging to the Puranik Period.

Poems, epic and lyric.

Kalidasa had worthy successors in this branch of literature, as in the drama. Bharani has left a vigorous and spirited epic, the *Kiratarjuniam,* which deals with some episodes from the Mahabharata. It is noticeable how frequently the two great Indian epics have been drawn upon by later Sanskrit poets for their subject-matter. Bhartrihari, the most versatile genius of the 7th century, wrote epics as well as the *Satakas.* The period of Rajput greatness was also not without its poets. King Bhoja,* himself a versifier of note, attached other men of letters to his court. Jayadeva of Bengal, who flourished in the 12th century at the court of the Sena King, Lakshmana, wrote the *Gita Govinda,* "the most melodious song that has ever been written in Sanskrit," the Hindu counterpart of the mystical song of Solomon. It has been rendered into beautiful English verse by Sir Edwin Arnold.

India has not been deficient in prose romances. Among Sanskrit works of fiction the following should be

Fiction.

noticed:—(1) *The Fables of Pilpay,* the current name for a series of fables anonymously compiled, perhaps in the 6th century, and properly known as the fables of the Panchatantra; (2) the *Dasa-Kumara-Charita* 'Adventures of the Ten Princes,' an ornate and artificial work written by Dandin in the age of Harsha; (3) the *Kadambari* of Bana, a wild story of overmastering passion, very ornate and extravagant in style and incident; (4) the *Vasavadatta* of Subandhu, a love tale abounding in the supernatural, also composed in the age of Harsha.

The present period was less prolific than the two preceding periods in philosophic treatises. The six systems were already complete, but the ultimate triumph of the

Philosophy.

orthodox philosophy took place in the age of Puranik Hinduism. The Vedanta systems and the Vedic rites were championed, the first successfully, and the second unsuccessfully, by the great commentaries of Kamarila and Sankara Acharya, whose theologico-philosophic controversies belong to the 7th and 9th centuries respectively.†

Astronomy and mathematics claim more particular mention. The superiority of the Hindus in these sciences was well maintained in the Puranik Age. Aryabhatta, who lived early in the 6th century, was a famous writer on astronomy and algebra. He boldly maintained the

Astronomy and Mathematics.

theory of the revolution of the earth on its own axis, and understood the true causes of the lunar and solar eclipses. Moreover, his calculation of the earth's circumference was fairly accurate. He was shortly succeeded by Varahamihira, a most encyclopædic writer. His great work, the *Brihat Sanhita,* deals with astronomy, meteorology, geography, flora, and fauna, precious stones, the commodities of India, temples, images, and a host of other matters. It is an inexhaustible mine for the historian and the archæologist. Then came Brahma Gupta in the 7th century. His astronomical system is a monument of the learning of the time. The dark age of internecine strife was likewise a dark age in literature and science. But with the Rajput revival learning also revived, and in the first part of the 12th century the renowned Bhaskaracharya wrote his immortal *Siddhanta Siromani.* It treats of various sciences, including algebra, arithmetic, trigonometry and astronomy. The Hindus were the earliest people to apply algebra to astronomical investigations and geometrical demonstrations. Their works on algebra and trigonometry were translated by Arabian writers as early as the 8th century, and then found their way into Europe. It was through this channel also that the decimal notation invented by the Hindus, together with the numerals from one to nine and the cypher, found their way to the West and became the property of the whole civilized world. It cannot then be too often repeated that the veneration of Hellenism should not blind us to the debt which civilization owes to the most Eastern branch of the Aryan race.

The antiquity of Hindu medicine, and the progress made by Hindus in the various branches of medical science has now been thoroughly established. The

Medicine.

Hindus can be proved to have studied medicine before the Greeks, and even Hippocrates, the so-called 'Father of Medicine,' borrowed his Materia Medica from India. But although medical science was well advanced on the Ganges when the Greek learning was yet unborn, scientific works on the subject were of a later date. The writings of Charaka and Susruta are the most ancient extant medical works of the Hindus. Charaka is now plausibly ascribed to the Kushana Period, and Susruta perhaps wrote early in the Puranik Age. Both divide their works into numerous heads, and are most exhaustive. The structure of the body, surgery, the various kinds of diseases, and their cure, epidemics and antidotes, are a few of those divisions. The preparation of chemical compounds and the medicinal use of metals were known to Hindu physicians. The number of vegetable drugs mentioned by these writers is amazing. Surgery, which suffered such a marked decline in subsequent centuries, in those early days attempted the most difficult operations. One hundred and twenty-seven different surgical instruments are described, and students are recommended to practise on vegetable substances and dead animals. The fame of Hindu medicine in the ancient world was such that Alexander the Great employed Hindu physicians for tasks which were beyond the knowledge of his Greeks, and eleven centuries ago two

Decline of Medical Science.

Hindu doctors were appointed as Court physicians to the Great Kaliph Haroun-al-Raschid of Bagdad. But with political and social degeneracy came the decay of science and learning, so that the descendants of the pioneers of medicine and surgery are now dependent upon the knowledge of the West in these as in all other branches of science. The civilization of the East arose and developed earlier than that of the West: but social and political conditions, if not the structure of the oriental mind, brought this flourishing civilization to a full stop, and did not admit of that continuous progress which the more energetic races of Europe have so signally displayed.

* See p. 39 above.

† See p. 34 above.

Field-Marshal LORD ROBERTS OF KANDAHAR, P.C., K.P., G.C.B., G.C.S.I., G.C.I.E., V.C., D.C.L., LL.D.

The Army in India.

PART I—*Historical Review.*

THE charter granted to the East India Company in 1661 empowered them to despatch ships of war, men and arms for the defence of their factories, and to make peace or war with any people who were not Christians. This power, which was somewhat enlarged by the charter of 1698 (which gave them authority to raise and maintain troops for the defence of their settlements), was renewed in 1753; but it was not till the passing of the Act of Parliament of 1773,* that the competency of the Company to wage war was clearly and specifically recognized.

Power of the E. I. C. to raise forces and to wage war.

For some years prior to 1661, however, armed followers had been entertained as guards for the Company's various factories and as personal escorts for their *employés*, and these armed followers increased in number as the Company's transactions and obligations extended. Till the declaration of war with France in 1744, the European soldiers were few in numbers and their duties were limited to defence of the different settlements, while the native irregulars (peons, cofferies, buxarries or sepoys), were employed principally on civil or police duties. The capture of Madras by the French in 1746 and, subsequently, the active and ambitious part taken by them in local politics forced the hands of the East India Company, who were obliged to turn their attention to the organization and improvement of the military forces at their command.

Early military requirements.

Of the years 1628-1746, which are the first dealt with below, there is little to relate, as, beyond a few attempted raids by Mahrattas and the expedition against the Nawab of Dacca in 1686, the period is bare of noteworthy military incident.

Period 1628-1746.

The first English military garrison in India was that of the factory at Armegon, which in 1628 consisted of 28 soldiers with 12 pieces of ordnance. In 1644-5 small parties of English recruits, with comparatively large quantities of ordnance and military stores, were sent out for the newly built Fort St. George, completing that garrison to a strength of 100 European soldiers. This force and the garrison of Fort St. David, established at Cuddalore in 1690-1, experienced many fluctuations in strength and, at times, considerable difficulty in obtaining recruits, till 1746, when each of these garrisons consisted of some 200 European soldiers, including artillery.*

Madras, 1628-1746.

In addition, each European Company of soldiers had a varying number of topasses (Portuguese recruited locally), or lascars, attached to it; and considerable bodies of native irregulars, or peons as they were ordinarily termed, were maintained. The latter, serving under native leaders, were armed with swords and bucklers, bows and arrows, or other primitive weapons, and were intended primarily for escort and police duties, but at times were employed on military service. Although when disciplined some years later these men made excellent soldiers, they were not at this time of much military value and, in times of special danger, were constantly displaced by Rajputs, hired for the occasion.

The European civilians were formed into trained bands, which furnished at one period a troop of Volunteer Horse and a company of Artillery towards the defence of Fort St. George, and the Portuguese and other inhabitants of the settlement were all liable to military service; for instance, in 1688, in face of a threatened attack by Mahrattas, the Portuguese and Gentoo inhabitants of Madras were ordered to furnish "1 man in arms for each house or family that have 2 men."

On the establishment of the Hughli factory in 1640 the Nawab of Bengal limited the number of armed retainers to be maintained by the Company to an Ensign and 30 men; in 1681, on the appointment of a separate English Governor for the factories in Bengal, this party was reinforced by "a corporal of approved fidelity and courage, with 20 soldiers;" and in 1683 a further addition of 2 companies was made: one of them consisting of European soldiers from Fort St. George, the other being made up of sailors from the Company's vessels in Bengal. In 1699, Bengal became a Presidency and the European military force at this time amounted to some 300 men, including 100 artillerymen called "the gunner and his crew." It gradually increased till 1746 when it consisted of 5 companies of Infantry and 1 of Artillery.

Bengal, 1640-1746.

As in Madras, the European companies were augmented by the attachment of topasses and lascars; native irregulars, called buxarries, were maintained in comparatively large numbers; and the civilian inhabitants were liable to military service in defence of their settlement. It is to be remarked,

* 13 Geo. III., Cap. xiii.

* The Artillery Company or "Gunroom Crew" of Fort St. George consisted in 1740 of:—1 Gunner and 4 Gunner's Mates, 10 Quarter Gunners, 35 Europeans, 100 Topasses, 1 Syrang, 2 Tindalls and 35 Lascars.

however, that it was not till 1742, that the European, Armenian and Portuguese inhabitants were regularly embodied into a Militia.

Bombay, 1662-1746.

In 1662, Sir Abraham Shipman was sent from England with 400 soldiers to hold Bombay for the Crown. Owing to objections on the part of the Portuguese as to the meaning of the term Bombay, the party landed in Anjedeva instead, whence they were transferred to Madras in 1664; by 1665, when Bombay was ceded finally, Shipman and many others had died; and the party that landed in Bombay had dwindled to 1 officer and 113 men. When Bombay was made over to the East India Company in 1668, the officers and men were offered, and accepted, service under the Company. In 1676 the force in Bombay consisted of 2 companies of 200 men each, which by 1746 had increased to 8 companies (including 1 Grenadier Company), aggregating some 1,500 officers and men including artillery. This number, however, also includes topasses, who composed rather more than half the force.

The native irregulars, called sepoys, consisted in 1746 of 6 companies, each under the command of a Subehdar, and totalled about 700 of all ranks; as regards their military value, these men do not appear to have differed materially from the peons and buxarries of Madras and Bengal, although, apparently, somewhat better organized.*

The Militia at Bombay in 1676 had an enrolled strength of 600 men, who were all possessors of land in the island.

Period 1746-1796.

The years 1746-96 saw the Company's obligations extended in every direction and, in consequence, the rapid augmentation of their military forces. The capture and defence of Arcot in 1751, followed by the recapture of Calcutta and the battle of Plassey in 1757, were the principal incidents at the beginning of a period which was to see French, Dutch, Mughal Viceroys, Rohillas, Mahrattas and Tipu Sultan, all defeated in their turn, and the East India Company involved, further and further, in a policy which was to found the British Empire in the East.

King's Troops in India, 1746-1796.

The 39th Foot, the first Royal regiment to arrive in India, reached Madras in 1754, and accompanied Clive to Bengal in 1757. In 1758, the 79th, 84th and 96th Foot arrived in India, but were recalled in 1764, when many of the officers and men accepted transfer to the Company's service. In 1779, the 71st Highlanders (then 73rd) were sent to Madras, to be followed by 4 other battalions [the 72nd Highlanders (then 78th), the 73rd Highlanders (then 2-42nd) Fullerton's (98th) and Humberstone's (100th) Foot] and the 19th Light Dragoons. In 1787, four more battalions, which had been specially raised for the East India Company (the 74th and 75th Highlanders and the 76th and 77th Foot), were sent out; the 36th and 52nd Foot and the 14th and 15th Hanoverians also reached India about this time: giving a total of 1 regiment of Dragoons and 13 battalions of infantry.

* Sir John Malcolm in his 'Government of India' contends that it was at Bombay that the first native corps were disciplined by the English about 1746-7; most other authorities give Madras, and a later date.

Madras, 1746-1796.

After the capitulation of Fort St. George, the Governor and Council at Fort St. David at once began to raise troops.

European Cavalry.—A troop of European cavalry was raised in 1748, but it never attained to any appreciable strength, and by 1758 must have disappeared entirely, for in that year, orders issued for the raising of a troop of 2 officers and 36 N.-C. Officers and men. In 1762, there were 2 English troops and 1 troop of foreign hussars, but they did not last long, for the latter were disbanded in 1769, and the former, after dwindling to a strength of 30 or 40 for several years, were abolished finally in 1784.

Native Cavalry.—In 1758, a body of 500 native cavalry were raised by a native officer, but they were not a success and had disappeared by 1768, when it was found necessary to organize native cavalry by mounting 500 selected sepoys. In 1784, 4 regiments of the Nawab's cavalry, which for some years had been officered by Europeans, were taken over by the Company; they mutinied almost at once, however, and three of them were disbanded, 2 fresh regiments being formed from the loyal remnant: to these, 2 regiments were added in 1785 and another in 1787, bringing the total to 5.

Artillery.—There was a small party of gunners at Fort St. David in 1746 under 2 ensigns and 2 master gunners, who, in 1749, were raised to the strength of a company of 5 officers and 110 N.-C. Officers and men; a second company was raised for Fort St. George in 1752, where, in 1758, at the commencement of the siege of Madras there were:—Royal Artillery, 148 officers and men; Madras Artillery, 70 officers and men. In 1763-4, the Royal Artillery were recalled to England, many of the men, however, accepting service under the Company; and this led to the organization in 1765 of 3 companies of Madras Artillery. The strength gradually increased, and in 1768, a battalion of 5 companies was formed, which by 1790 had risen to 2 battalions of 5 companies each. The corps of gun lascars was organized in 1779 in 24 companies, to rise to 30 companies by 1790.

Engineers.—There were a small number of Engineer officers employed continuously throughout this period.

European Infantry.—These amounted to about 200 at Fort St. David in 1746, and their strength was augmented after the capitulation of Madras by detachments from Bengal and Bombay of 100 men each, and by 150 men from England. In 1748, 7 companies of 3 officers and 81 N.-C. Officers each were formed, and by 1758 had so increased that they were organized in 2 battalions of 7 companies each; their numbers still continued to rise till 1770, when they were organized in 1 regiment of 4 battalions, altered in 1785 to 4 regiments of 1 battalion each.

A foreign legion was raised in 1768 and disbanded in 1780. In 1795, the Swiss regiment of Neufchatel, or De Murion, was transferred from the service of the Dutch East India Company in Ceylon to the British service in India: it was composed of 10 companies and was about 800 strong when it arrived in Madras.

Native Infantry.—The peons in Fort St. David in 1747, numbering about 3,000, were organized in companies under native leaders and were trained partially by

Europeans, but in 1758, when 2 battalions of them were formed under the command of Lieutenant Charles Tod, it was said of them that, though they had behaved well under fire on several occasions, they were still undisciplined and unable to manœuvre in the field. In 1760, 6 battalions of them (of 9 companies each) were formed under the command of British officers (2 Subalterns, and 3 Sergeant Majors to each battalion). This experiment, the organization and success of which was mainly due to Major Stringer Lawrence, was the beginning of the Madras native army, which for the next 30 years or so continued to increase in numbers and improve in efficiency. In 1765, when the force consisted of 13 battalions, British Captains were appointed to the command, and in 1773, to a force of 18 battalions, formed in 3 brigades of 6 battalions each, Adjutants were added to the Captain, 5 Lieutenants and 5 Ensigns with each battalion. By 1794, after various changes in the size and number (per battalion) of companies, and also in the number of battalions, the force had risen to a strength of 36 battalions.

A corps of guides, for survey work and work under the Intelligence Department, was raised in 1774, reduced in 1782 and again raised in 1787.

Militia, Volunteers, &c.—During the siege of Madras in 1758, three companies (1 European, 2 native) of Volunteer Pioneers were formed and did good service.

Bengal, 1746-1796.

Till the capture of Fort William, with its terrible sequel of the 'Black Hole' in 1756, and the subsequent arrival of Clive in the following year, there is nothing of military interest in Bengal to relate.

European Cavalry.—Two troops of European Dragoons and one of Hussars were raised from the European infantry in 1760, were organized into one efficient troop in 1764, and in the following year, with the exception of a small number retained as a body-guard for the Governor-General, the men returned to infantry duty.

Native Cavalry.—Two ressalahs of irregular cavalry called the Mughal Horse, under native leaders, were raised in 1760; these, after an increase in 1764 to a strength of 1,200, were reduced in 1765 to 3 ressalahs of 100 men each under command of British subalterns, and were disbanded in 1772 as being of little use. The Nawab Vizier raised 2 cavalry regiments officered by Englishmen, in 1776, which were transferred to the Company in 1777, when a third regiment, to complete a brigade, was formed. Two of these were disbanded in 1783, and the third, after service in Bombay together with a troop of 'Kandahar Horse' raised at Cawnpur in 1778, formed in 1796 2 of the 4 regular native cavalry regiments established by the reorganization of 1796.

Artillery.—By 1765, the company of 1746 had risen in strength to 4 companies, one company being attached to each of the 3 brigades formed by Clive, the fourth being retained for garrison duty at Fort William, Palta and Baj-baj; in the years 1777-85, some companies of Golandaz (native artillery) officered by Europeans were taken over by the Company from the Nawab of Oudh, but, although apparently efficient, they were abolished in the latter year, the system of having companies of gun lascars being reverted to. The European artillery had, in the meantime, increased considerably, and the establishment was fixed in 1786 at 3 battalions of 5 companies each with 30 companies of lascars.

Engineers.—As in Madras, a small number of Engineer officers was employed continuously during this period.

European Infantry.—The numbers of these after the capture of Calcutta were reduced to about 200, but rose in the next two years to 900, and by 1765 we find them organized in three regiments, each forming part of the brigades formed by Clive in that year: in 1786 their organization was changed into one of 6 battalions.

Native Infantry.—The first battalion of Bengal sepoys to be trained, disciplined and clothed after European methods was raised by Clive in 1757; the experiment was successful, recruits were plentiful and easily obtained, and by 1759 five battalions had been organized. In 1760, each of these battalions had a native strength of 1,000 with a European staff of 1 Captain, 1 Lieutenant, 1 Ensign and 4 N.-C. Officers. Their numbers continued steadily to increase till 1786, when there were 36 battalions, each with a European staff of Commandant, Adjutant, 8 Subalterns and 10 N.-C. Officers.

Militia and Volunteers.—In 1756, a company of Volunteers was formed at Palta and formed part of Clive's expeditionary force which re-took Fort William. About 1795, a corps of native Militia was raised in Calcutta, which was found most useful in relieving the Regulars of garrison duties when the latter were required for active service: it consisted of 8 companies of 90 men each.

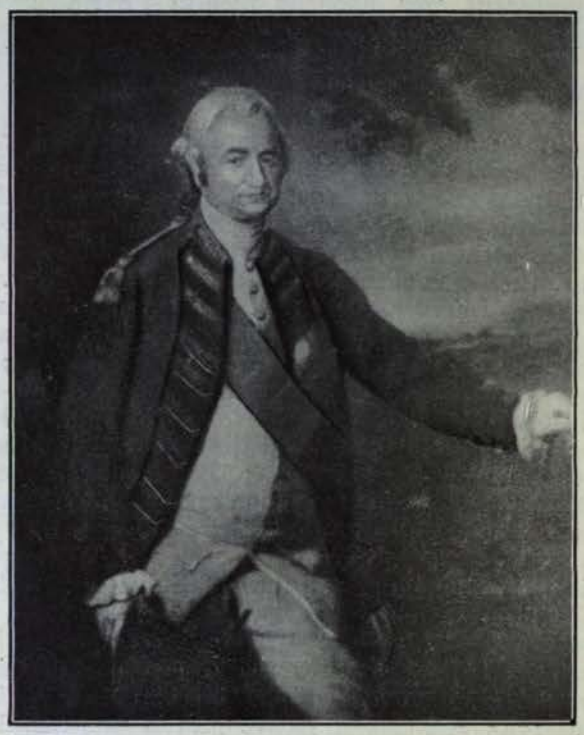
Artillery.—The artillery in Bombay, which in 1760 numbered 227, of whom 128 were natives, was formed into 3 companies of 100 Europeans each in 1765, and into a battalion of 4 companies, totalling 302 Europeans, in 1768.

Engineers.—In 1777, the Court of Directors agreed to officers being appointed to form a corps of Engineers, and in the same year 5 companies of lascar Engineers, and one of lascar Pioneers, each numbering 100 native officers and men, were organized.

Bombay, 1746-1796.

European Infantry.—By 1760, the infantry left in Bombay were reduced to 662 men, of whom 255 were topasses; in 1765, the establishment was fixed at 15 companies of 100 Europeans each, which, three years later, were formed into 3 battalions of 7 companies each, aggregating 1,603 Europeans. In 1778, the European infantry left in Bombay was again reorganized, being formed into 1 battalion of 12 companies (two of which were to garrison Broach), totalling 670 officers and men.

Native Infantry.—In 1759, the companies of sepoys were reorganized, those required for civil duties being formed into a separate corps, while a corps of 500 was organized for purely military duties. In 1765, the organization of the sepoys in Bombay into 2 battalions was ordered by the Court of Directors; each battalion which was to consist of 10 companies, with a total strength of 1,000 native ranks, was to have a European staff of 1 Captain, 1 Lieutenant, 1 Ensign, and 10 Sergeants. This force gradually increased, till, by 1783, it consisted of 7 battalions (including 1 of Marines); by 1788, 12 battalions had been formed, and at this number they remained till the reorganization of 1796.



LORD CLIVE.

Major General Sir DAVID OCHTERLONY, Bart. K.C.B.

General Sir JOHN NICHOLSON.

Brigadier-General Sir HENRY HAVELOCK.

SOME FAMOUS INDIAN GENERALS

Reproduced from Portraits and Engravings in the Victoria Memorial Collection.

Recruitment, discipline and administration of Company's forces prior to the organization of 1796.

The recruitment of the Company's European forces was a question of some difficulty, and detachments were sent out from home, from time to time, the gaols and the press gang being prominent recruiting agents; for the service was far from popular: but this source alone proved insufficient, and sailors from the Company's ships, volunteers from the King's troops, foreign deserters and prisoners of war were all had recourse to at different periods; in addition, foreign mercenaries, notably Swiss, were often engaged in comparatively large numbers, and even, at one time, slaves were purchased in Madagascar to fill up the vacant ranks: with all this, numbers fell dangerously low at times and, in consequence, in every presidency, topasses formed generally a large proportion of the European companies.

There appears to have been little difficulty experienced, except at one time in Madras, in obtaining recruits for the various native forces; it is probable that, till disciplined native corps were organized about the middle of the 18th century, no great efforts were made to recruit from good fighting classes, and it is not till this period that we find in old records particular mention of the different classes enlisted.

Pathans, Rohillas and Rajputs formed the greater part of the first Madras native battalions till the number of these began to outgrow the supply, when recourse was had to the inhabitants of the Carnatic and the Circars: in 1795, unsuccessful attempts were made to recruit for Madras regiments in Bombay and Bengal.

In Bengal, the first battalion was formed of Pathans, Rohillas, Jats, Rajputs and Brahmans, but as the army increased, the two latter classes rose in numbers till they predominated: in the first instance recruits came generally from Behar and Benares, but latterly most of the men seem to have come from Oude and beyond Benares.

There was a curious mixture in Bombay regiments of Eurasians, Jews, Arabs, Abyssinians, local Mahomedans, and low caste Mahrattas.

The military administration of this period was corrupt in the extreme; in questions of supply and accounts matters were extraordinarily lax, perquisites being recognized as a part of an officer's legitimate emoluments; and in other directions affairs were little better. In consequence, discipline was most indifferent, and mutinies, even of British Officers, were frequent and had often to be suppressed with the greatest severity. As a result of all this the training of the troops was far from perfect. The indifferent position and prospects of the Company's officers may have been responsible for a great deal of this. For many years no officers above the rank of Captain, and very few even of that rank, were appointed, in order that the control of the Company's civilian servants over their military forces might be entire and unquestioned even in time of war; and when senior officers were appointed, their numbers were so few as to make promotion unduly slow, and they were frequently superseded by officers of the King's troops who had been granted local rank.

It was not till the middle of the 18th century that field officers were appointed to the command of the military forces in each presidency with a seat as third Member of Council of that Presidency, and it was not till some 20 years later that they were allowed a proper staff to assist them in their military duties.

In 1774, the Governors of Presidencies were appointed Commanders-in-Chief of the forces in their respective presidencies, and in 1786 Lord Cornwallis was appointed the first Governor-General and Commander-in-Chief in India. Brigadier-General Carnac, who resigned in 1767, was the first military Commander-in-Chief in India.

The military administration by Government was at first carried out by a branch of the so-called Public Department under a Secretary. In 1773-4 Quarter-Master General's and Adjutant-General's Departments were created; and in 1776 a Military Board was organized in each presidency "for the management and direction of military affairs." The constitution of this Board, which at first was composed of the Governor-General or Governor and other Members of Council, was changed in 1785, when it was composed of:—

The Commander-in-Chief,
The Senior Officer at the Presidency,
The Senior Officer of Artillery,
The Chief Engineer,
The Adjutant-General,
The Quarter-Master General, and
The Auditor-General.

In 1786, were created two departments for the conduct of military business, each under a Secretary, called "The Secret and Military Department" and "The Military Department of Inspection." In 1793, the latter department was abolished and the title of the former department altered to Military Department.

Reorganization of 1796.

The reorganization of 1796 was the first real attempt to treat generally, and from one point of view, the heterogeneous forces of the various presidencies, and it is, therefore, more or less possible from this date to deal with the army in India as a whole.

The army was organized as follows:—

Bengal.—European artillery, 3 battalions of 5 companies each.
European infantry, 3 regiments of 10 companies each.
Regular native cavalry, 4 regiments of 6 troops each.
Native infantry, 12 regiments of 2 battalions each.

Madras.—European artillery, 2 battalions of 5 companies each.
European infantry, 2 regiments of 10 companies each.
Native artillery, 15 companies of lascars (attached to European artillery).
Native infantry, 11 regiments of 2 battalions each.

Bombay.—European artillery, 1 battalion of 6 companies each.
European infantry, 1 regiment of 12 companies.
Native infantry, 4 regiments of 2 battalions each, and a marine battalion.

Officers, who had hitherto been borne on one seniority list in each presidency for promotion, were now given promotion up to the rank of Major according to their *regimental* seniority. Lieutenant-Colonels and Colonels were placed on separate lists for promotion in each presidency, and an establishment of Generals was laid down for the Company's army. Furlough regulations were also introduced.

The establishment of the native army in Bengal was laid down as follows :—

Native cavalry regiment, 16 European officers, including 1 field officer, 4 European N.-C. Officers, 12 native officers, and 465 native N.-C. Officers and men; *Native infantry regiment*, 1 Colonel, 2 Lieutenant-Colonels, 2 Majors, 8 Captains, 22 Lieutenants, 10 Ensigns, 2 European N.-C. Officers, 40 native officers, and 1,840 native N.-C. Officers and men.

The establishments in Bombay and Madras were organized on similar lines.

Period 1796-1857.

With the advent of Lord Mornington (Marquis Wellesley) in 1798, started an era of war and conquest. British cantonments gradually extended to beyond Delhi in the north and over the whole of the Dekhan and Mahratta territories, and necessitated a large increase to the army. In 1808, the Indian military establishment was constituted as follows :—

Military forces, 1808.

	Royal Army.		Company's Army.			
	Cavy. Regts.	Infy. Battalions.	European Infy. Battalions.	Artillery Battalions.	Native Cavalry Regiments.	Native Infy. Regiments.
Bengal ...	2	5	1	3	8	54
Madras ...	2	8	1	2	4	46
Bombay ...	...	7	1	1	...	18

Aggregating, in round numbers, 24,500 Europeans and 130,000 natives.

The war in Nepal and against the Pindaris, the two Burmese and Afghan wars, the operations against Sind and Gwalior and the two Punjab campaigns were all responsible for increased military obligations, if not for expansion of territory, and gave cause for further increases in the military forces.

A reorganization of the army in 1823-4, under which double battalion regiments were split into single battalion regiments and numbered according to the dates on which they had been raised and which gave 1 Colonel and 22 European officers to each native regiment or battalion, fixed the establishment of the Company's forces as below :—

	Horse Artillery.	Foot Artillery.	Engineers.	European Infy. Regts.	Regular Nat. Cavy. Regts.	Irregr. Nat. Cavy. Regts.	Nat. Infy. Battns.
Bengal ..	3 Brigades (9 European and 3 Native troops).	5 Battns. (20 Coys.)	47 Officers, 1 S. & M. Corps, 1 Pioneer Corps.	2	8	5	68
Madras ..	2 Brigades (1 European and 1 Native).	3 Battns. each of 4 Coys, with 4 Coys. lascars.	2 Battns. Pioneers.	2	8	..	52
Bombay.	4 Troops.	8 Coys.	1 Corps Engineers & 1 Corps Pioneers.	2	3	2	24

and, in addition, various local and provincial corps.

In 1815, the first Gurkha battalions were formed from the men who entered the British service after the fall of Malaun; in 1823, when the establishments and duties of the various and nondescript irregular corps in the Company's service were fixed and laid down, we find 5 irregular native cavalry regiments mentioned, which were the beginning from which sprung the Bengal Silladar Cavalry.

From 1824 to 1856, the army experienced many fluctuations in strength (as the forces were reduced or increased in accordance with the policy and requirements of the moment) and some slight changes in organization. In the latter year the numbers stood as below :—

	British (Royal and E. I. Coy.'s) Troops.				Native Troops.				
	Cavalry.	Artillery.	Infantry.	Total.	Cavalry.	Artillery.	Sappers & Miners.	Infantry.	Total.
Bengal	1,366	3,063	17,003	21,432	19,288	4,734	1,497	112,052	137,571
Madras	639	2,128	5,941	8,708	3,202	2,407	1,270	42,373	49,252
Bombay	681	1,578	7,101	9,360	8,433	1,997	637	33,861	44,928
Local forces and Contingents.	...	...	...	...	6,796	2,118	...	23,640	32,554
Do. (various arms)	...	...	...	...	...	...	...	...	7,756
Military Police ..	...	...	...	...	...	...	...	...	38,977
Total ...	2,686	6,769	30,045	39,500	37,719	11,256	3,404	211,926	311,038
					Total British and Native ...				350,538

The way in which the Bengal army had more than doubled its numbers in the last 50 years, while the Madras army had slightly decreased, and the forces in Bombay had almost remained stationary, is worthy of remark.

Local Corps.

Local corps had been raised in large numbers; they were cheaper and more mobile than the regular native troops, and their organization was favoured on the grounds of policy: for it was felt that the Bengal army, recruited almost exclusively from one caste, had grown dangerously strong. Among the better known of these local corps we may mention:—The Frontier Brigade raised in the Sutlej States in 1846; the Corps of Guides; the Punjab Irregular Force raised in 1849; the Oude Irregular Force; and the Hyderabad Contingent. The latter force, which was maintained by the Nizam of Hyderabad under the treaty of 1800, at first consisted of 9,000 horse and 6,000 foot, with European officers from the Company's service: in 1853, however, a new treaty assigned Berar for the payment of the contingent, which, thereupon, ceased to be a part of the Nizam's army; it was then organized in 4 regiments of cavalry, 4 field artillery batteries, and 6 battalions of infantry, under a general officer who took his orders from the Resident at Hyderabad. The Punjab Irregular Force was administered by civil authority, namely, the Provincial Government.

Many of the Native States also maintained contingents with which they were supposed to come to the Company's aid if required to do so. The numbers of these contingents varied greatly, but in ordinary times they averaged about 35,000 men: they were of little value in a military sense.

Militia and Volunteers.

The different militia and volunteer forces appear to have been neglected, and in a great part to have dropped out of existence during this period.

Discipline and Administration.

The repeated mutinies show that discipline was still far from what it should have been; and indifferent conduct in the face of the enemy was not infrequent.

The position of commanding officers of native corps was anomalous in the extreme owing to their liability to constant transfers; the shibboleth of seniority, and the system by which officers once appointed to the staff remained permanently on the staff, imposed on the army senile generals and staff officers out of touch with the men in the ranks: these facts, and the excessive centralization of the army administration, rendered the whole army machinery cumbersome and unsuitable.

In 1799, the Military Department was assigned a place in the administration of each presidency, on much the same footing as the civil public departments of Government and, in conjunction with the Military Boards, administered the military business of the country. The Military Boards were abolished finally in 1855, when in each presidency the administration of the army devolved on the Military Department, and the Commander-in-Chief became the executive head of the military forces while still retaining his seat on the Council.

Period 1857-1895.

The causes of the Mutiny of 1857 have been so often and so well described that it is unnecessary to enter into the question here. Only a small portion of the Bengal army remained faithful. The Bombay army generally proved true to their salt, and of the Madras army only one regiment of cavalry gave trouble. The Punjab Frontier Force not only proved thoroughly loyal, but its services in helping to suppress the mutineers were invaluable.

British Troops.

In 1858, when the East India Company ceased to exist on the assumption of government by the Crown, it was decided that the Company's European troops should be transferred to the Crown. They were accordingly amalgamated into the Royal army. In 1857 large reinforcements of British troops had reached India and their establishment in the following year was approximately 70,000.

Reorganization of the Native Army.

The reorganization of the native army took some years to effect. It was decided to reorganize the whole on the "irregular" system. This term appears to have been applied because a smaller number of British Officers were appointed to each corps of the reorganized army than were formerly appointed to regular corps, and because each appointment was considered a 'staff' appointment. The term was in no way descriptive and has long since ceased to be employed.

Formation of Indian Staff Corps.

A staff corps was instituted, for each of the three presidencies, to provide officers to hold the various offices and appointments in native regiments, on the staff and in army departments, and also those in civil and political employ open to military officers. Promotion was to be by length of service; 12 years' service to qualify for the rank of Captain, 20 for Major, and 26 for Lieutenant-Colonel.

Native Army Establishment.

The native cavalry (except for the regiments in Madras) was organized on the Silladar system; and the native artillery, except for the few native mountain batteries of the Punjab Frontier Force and Bombay army and the Hyderabad Contingent field batteries, was entirely abolished.

In 1864, the establishment was as follows:—

	Cavalry Regiments.	Artillery Batteries.	Infantry Battalions.
Bengal	19	.....	49
Madras	4	.....	40
Bombay	7	2	30
Punjab Frontier Force ...	6	5	12
Hyderabad Contingent ...	4	4	6
Other local Corps ...	2	.....	5
TOTAL ...	42	11	142; or a total strength of some 140,000 men.

1860-78.

There were various small frontier expeditions between 1860 and 1878; there were also expeditions against China, Abyssinia and Perak, but no large and important

operations took place till the Afghan War of 1878-79. This campaign, which strained greatly the military resources of India, showed many defects in the military administration and organization. The Army Organization Committee of 1879 enquired into the whole question copiously and exhaustively, and had many reforms to recommend. In accordance with their recommendations, the following native corps were disbanded about 1881 :—

Reductions in establishment, 1881.

2 Bengal, 1 Bombay, and 1 Punjab Frontier Force regiments of cavalry.

5 Bengal, 8 Madras, 4 Bombay and 1 Punjab Frontier Force battalions of infantry.

At the same time a substantial increase was made in the establishment of every other corps.

The British army, which consisted of 9 cavalry regiments, 86 batteries of artillery, and 50 battalions of infantry, was reduced by 11 batteries.

In 1885, war with Russia appeared imminent, and it was decided to increase permanently the British and native forces. A fourth squadron was added to each British cavalry regiment; the 11 batteries of European artillery, reduced in 1881, were restored; an addition was made of 3 battalions of British infantry; and the strength of each battalion on the establishment was to be increased by 100 men. Two Bengal and one Bombay native cavalry regiments were ordered to be raised, while a fourth squadron was to be added to each Bengal and Bombay regiment and 100 men to each Madras regiment; two native mountain batteries were to be raised; and 9 native infantry battalions were added to the Bengal Army.

1885.

The total increase amounted to 10,600 British and approximately 20,000 natives and was carried out by the end of 1887, in which year the establishment of the army in India stood as below :—

	British.					Native.				
	Cavalry.	Artillery.	R. E. Officers.	Infantry.	Total.	Cavalry.	Artillery.	Sappers and Miners.	Infantry.	Total.
Bengal ...	3,786	7,084	203	34,442	45,515	15,202	1,508	1,438	58,944	77,092
Madras ...	2,524	2,658	35	11,143	16,360	2,146	271	1,495	28,737	32,649
Bombay ...	631	2,947	45	8,104	11,727	4,667	452	935	22,490	28,544
Local Corps ...	...	...	...	...	...	1,598	...	...	5,669	7,267
Hyderabad Contingent.	...	...	...	...	...	2,000	536	...	5.004	7,540
TOTAL ...	6,941	12,689	283	53,689	73,602	25,613	2,767	3,868	120,844	153,092

Total British and Native=226,694

All of this increase, however, was absorbed by the requirements of the territory annexed in, and adjacent to, Burma in 1885 and the following years.

During the ten years 1885-95, military operations in Burma and on the Eastern, North-Eastern, and North-Western Frontier were almost continuous, while during the same period great strides were made in the improvement of the organization and efficiency of the forces. Among the principal changes we may mention the following :—

1885-95.

In 1885, was inaugurated a programme for the improvement of coast and frontier defences.

1885.

In 1886, arrangements for mobilization in the event of war were placed on a proper footing; a reserve was started for the native army with a strength of some 23,000 men; military police were organized for service in Burma, and two additional mountain batteries were raised to meet the requirements of Burma; and the control of the Punjab Frontier Force was transferred from the Punjab Government to the Commander-in-Chief. In 1888 General's Commands were reduced from 33 to 30 and were divided into 1st class districts under Major-Generals, and 2nd class districts under Brigadier-Generals, while the larger stations were placed under Colonels on the Staff; the district staff of the Adjutant-General's and Quarter-Master-General's Departments were amalgamated into district staff officers, 1st and 2nd class, for the higher class of military staff duties, duties of a routine nature being relegated to the garrison or station staff.

1886.

1888.

In 1889, Mounted Infantry were organized for service in Upper Burma, and the Imperial Service Troops system was inaugurated. Regarding the latter a short explanation is necessary. During the war with Afghanistan in 1878-80 certain of the native chiefs had

1889.

sent contingents to assist our forces, and these had rendered good service, generally on the line of communications.

Imperial Service Troops.

In 1885, when a Russian war seemed imminent, most of the native chiefs had come forward with offers of assistance in men, horses or money. The native armies of these chiefs—for the most part huge undisciplined armed rabbles—had for years been considered a source of danger in case of a general mobilization for war across our frontiers, and it was decided to remove this danger and at the same time increase our available reserves, by inviting all the greater native chiefs to reorganize their armies by forming corps which should be really efficiently armed, equipped, disciplined and trained, and which should be at our disposal in case of need. In order that the chiefs should take a sufficient pride and interest in these corps, they were to remain under the complete control of their own rulers during peace time, the only interference we allowed ourselves being that British Officers (serving under the orders of the Foreign Department) should train and inspect them. The scheme has proved entirely successful, and Imperial Service Troops have rendered excellent service in more than one frontier expedition and in China and Somaliland.

In 1890, the three presidential staff corps of Bengal, Madras, and Bombay, were amalgamated into one Indian staff corps, and the number of trans-frontier men in the native army was increased. In 1891, two Bombay infantry regiments were reconstituted for service in Baluchistan; an increase was made in the establishment of garrison artillery companies; the pay of the native soldier was increased; and recruiting centres for the Bengal army were established. In 1892, the Intelligence Branch of the Quarter-Master-General's Department was reorganized and certain Madras regiments were reconstituted for service in Upper Burma. In 1893 the system of class regiments was introduced among the Hindustani regiments of the Bengal army, and the British troops in India were re-armed with the magazine rifle. In 1894, a reserve of officers for the Indian army was organized, but up to the present has not proved a success.

1890. 1891. 1892. 1893. 1894.

It has already been shown how the different presidential armies grew up apart from force of circumstances. Gradually, however, as cantonments spread out over the country, and as external requirements necessitated the employment in one direction of forces larger than any one presidency could spare, the three armies came more and more in contact.

Reorganization of 1895.

Further, in the progress of events, the armies of Madras and Bombay came to garrison territories well beyond the limits of those presidencies; and the Bengal army had grown too large and cumbersome for one command. It thus became increasingly apparent that a system under which the central government, though nominally the head of the army, had actually little real authority over the British troops in the different presidencies, and no authority at all over the native troops, was so anomalous as to amount to a real danger in time of war. This had been foreseen by the Government of India who endeavoured, but without success, to impress their views on the Home Government. It required the Afghan war with its clear illustration of the evils of the system, the recommendations* of the Army Organization Commission of 1879, and some years more of urgent pressure from the Indian Government before the necessary reforms were initiated. By 1888, most of the different presidential army departments had been consolidated under one head with the Government of India, and their transfer from the control of the local governments effected, and in that year the Indian Government was authorized by the Secretary of State for India to prepare the necessary orders for the division of the army into four commands. Everything was made ready for carrying out the change in 1890, but statutory authority was necessary, and it was not till 1893 that the necessary Act of Parliament was passed. The new system was introduced in 1895; but its inauguration had been so long delayed that it had ceased to be appropriate to the altered circumstances of the case; and it was destined to last but a short period.

The years 1895-8 saw large bodies of troops employed across the North-West frontier; in 1899-1900, a force of British troops from India was organized and sent to Natal; in 1900-01 the China expedition was carried out; in 1901-2 extensive blockade operations took place against the Waziris; and in 1903-4 there were expeditions in Somaliland and Thibet.

Period 1895 to the present day (1906).

The last six or seven years of this period have been prolific in changes and reforms. These are due to Russian movements in Central Asia and the near East, the entry of other European Powers into the eastern political arena, the expansion of our own dominions till they march with those of Russia, Turkey, China and France, the improvements necessitated by the lessons of the frontier campaigns of 1895-8 and of South Africa, and the amended finances of the Indian Empire.

The most important of these changes are detailed below :—

The commands, organized in 1895, divided the country, roughly speaking, as follows: the Punjab Command comprised almost all the country administered by the Punjab Government; the Bengal Command, in addition to Bengal and the North-West Provinces (now the United Provinces), took in Assam and parts of Central India and the Central Provinces; the Bombay Command included, in addition to the Bombay Presidency, Rajputana, Baluchistan, Aden and the remaining parts of Central India and the Central Provinces; and the Madras Command contained Burma, Hyderabad and Mysore in addition to the Madras Presidency. A Lieutenant-General with a large staff of combatant and departmental officers was appointed to each command and was given powers to deal with many cases which had hitherto required the authority of Army Head-Quarters or the Government of India.

1895. Formation of 4 Commands.

* They recommended the division of the army in India into 4 army corps: Punjab, Bengal, Madras and Bombay.

In 1896, the amalgamation of the Bengal, Bombay and Madras branches of the Indian Medical Service, under a Director-General, was carried out.

1896.

In 1897, the class squadron and company system was introduced into the Hyderabad Contingent; sanitary officers were appointed to each command; and the Central India Horse, the Bhopal and Merwara battalions and the Deoli and Erinpura Irregular Forces were transferred from the control of the Foreign Department to that of the Commander-in-Chief.

1897.

An additional native mountain battery was raised: the number of British infantry battalions in India was reduced from 53 to 52, the establishment of each of the latter number being increased by 20 men; and battalions of native infantry were first lent to the Imperial Government for duty in colonial garrisons.

1898.

A first class district, under the General Officer Commanding the Punjab Frontier Force, was formed, embracing the North-West Frontier from Abbottabad to Dera Ghazi Khan (including the Peshawar district).

1899.

The double company system was introduced into the native infantry; a new native mountain battery was raised; three battalions of native infantry were raised for duty in Colonial garrisons; Assam Gurkha battalion was delocalised; and the transport service was completely reorganized. A considerable change of frontier policy was inaugurated, as it was decided that all regular troops should be withdrawn gradually from Southern Waziristan, the Khyber, Samana and from the Kurram and Tochi valleys, their place being taken by local militia, and that movable columns of regulars should be maintained in frontier cantonments to support the militia in case of necessity. In this way waste of regular military force is obviated, and the interest of the local inhabitants in the maintenance of peace is aroused.

1900.

The native army was re-armed with the magazine rifle; the Commissariat Department was reformed and renamed the Supply and Transport Corps; mounted infantry schools were established; a fourth battalion of native infantry was raised for Colonial garrison duty; and accelerated promotion was sanctioned for officers of the Indian Staff Corps, Captain's and Major's ranks being attained after nine and eighteen years' service respectively.

1901.

An ambulance bearer corps of 6,000 bearers was organized; three field howitzer batteries were added to the establishment; a corps of frontier garrison artillery was formed; the brigade division system for horse and field artillery was introduced, and ammunition columns were reorganized; a fifth battalion of native infantry was raised for Colonial garrison duty; the Imperial Cadet Corps was established; during the years 1898-1902 four battalions of Hindustani Mussalmans were reconstituted; and two ordinary and one fortress (for Aden) companies were added to the Bombay Sappers and Miners.

1902.

The designation Indian Staff Corps was changed to Indian army; the whole of the regiments of the Indian army were renumbered as a single army (an exception being made in the case of Gurkha battalions and the Corps of Guides) instead of by presidencies and irregular forces; Burma was made a separate district under a Lieutenant-General and was placed directly under Army Head-Quarters; the re-armament of the mountain artillery was completed; and the enlistment of Mahsud Waziris into the regular army was authorized.

1903.

The composition and strength of the army in India was as below:—

COMMANDS.	British Army.								Native Army.							Auxiliaries.			
	Cavalry regiments.	Horse Artillery batteries.	Field Artillery batteries.	Heavy or position batteries.	Mountain batteries.	Garrison Coys. Artillery.	Guns.	Infantry battalions.	Cavalry regiments.	Mountain batteries.	Frontier garrison Coys.	Guns.	Sapper and Miner Coys.	Submarine Miners' Coys.	Infantry battalions.	Volunteer Corps.	Imperial Service Corps.	Militia Corps.	Military Police battalions.
Punjab ...	3	4	9	3	5	3	120	14	15	7	1	42	4	...	44				
Bengal ...	3	5	15	3	...	6	120	17	11	1	...	6	5	1	26				
Bombay	1	2	12	1	3	9	102	11	11	...	...	...	9	2	31	66	33	6	21
Madras ...	2	2	9	...	...	1	66	6	3	...	...	...	9	...	31				
Burma	...	...	...	....	...	2	...	4	...	2	...	12	1	1	7				
Total ...	9	13	45	7	8	21	408	52	40	10	1	60	28	4	139	66	33	6	21
Strength ...	5,646	14,577						53,688	24,941	7,410			4,430		121,160	32,000	18,000	6,000	20,000
	74,170								157,941							76,000			

The above numbers include native troops serving in Somaliland and the Colonies, but exclude the native army reserve numbering about 25,000.

1904. In 1904, on the conclusion of a revised arrangement with the Nizam of Hyderabad regarding Berar, the Hyderabad Contingent ceased to exist as a separate force; its cavalry of 4 regiments of 3 squadrons each was reorganized in 3 regiments of 4 squadrons each and its field artillery was disbanded. A pioneer battalion to be composed of Hazaras was raised; an Assam Gurkha battalion was delocalised; large additions were made to the mule transport maintained permanently; and it was decided to increase gradually the native army reserve till it reached a strength of 50,000. During the period 1900-04, thirteen Madras infantry battalions and the Madras cavalry regiments were reconstituted by the enlistment in them of Moplahs, Gurkhas, Punjabis, Jats and Rajputs.

Reorganization of 1904. In this year a large reorganization scheme was inaugurated. This aimed at a more scientific distribution of the Army during peace and at the mobilization of a field army of not less than 9 divisions and 8 cavalry brigades. Under it the Madras Command was abolished, and the commands and staff were reorganized as follows:—

COMMANDS	DIVISIONS AND INDEPENDENT BRIGADES UNDER DIVISIONS.	BRIGADES.
NORTHERN	1st (Peshawar) Division	Nowshera.
		Mardan (cavalry).
	2nd (Rawalpindi) Division	Abbottabad.
		Sialkote (cavalry).
	3rd (Lahore) Division	Jullundur.
		Umballa (cavalry).
		Sirhind.
		Multan.
		Ferozepore.
	Kohat Brigade.	
	Bannu Brigade.	
	Derajat Brigade.	
WESTERN	4th (Quetta) Division	Karachi.
		Nasirabad.
	5th (Mhow) Division	Jhansi.
		Jubbulpore.
	6th (Poona) Division	Bombay.
		Ahmednagar.
		Belgaum.
	Aden Brigade.	
EASTERN	7th (Meerut) Division	Bareilly.
		Garhwal.
		Meerut (cavalry).
	8th (Lucknow) Division	Fyzabad.
		Allahabad.
		Presidency.
		Assam.
UNDER ARMY HEAD-QUARTERS	9th (Secunderabad) Division	Bangalore (cavalry).
		Bangalore (infantry).
		Madras.
		Southern.
		Secunderabad (cavalry).
		Secunderabad (infantry).
	Burma Division	Mandalay.
		Rangoon.

The principle underlying this arrangement was that the Army should in peace be organized and trained in units of command similar to those in which it would take the field. Each peace division (except Burma) should be able to place in the field 1 cavalry and 3 infantry brigades and should, in addition, comprise such other troops as were required for the maintenance of internal order in the divisional area when the division itself was withdrawn for war. The scheme was estimated to take some years to work out as new accommodation was required in many cantonments. The organization shown above will undergo further alteration before the scheme is completed.

The peace combatant staff of a division was fixed at two Assistant and one Deputy Assistant Adjutants-General; of a Brigade under a Brigadier-General at one Deputy Assistant Adjutant-General and one Brigade-Major; and of a Brigade under a Colonel on the Staff at a Brigade-Major and a 2nd class Station Staff Officer.

At the same time a regular programme of increasing reserves and generally adapting mobilization arrangements to suit the larger field army was entered upon.

1905. A staff college was started in India to train candidates for staff employment; to be located ultimately at Quetta, it opened in temporary quarters in Deolali: a programme of extension of strategic railways on the frontier was initiated; a large scheme for the expansion of ordnance factories was started; and arrangements were made to rearm the whole of the Horse and Field Artillery with Q. F. guns.

New system of Military Administration. At the instance of Lord Kitchener, who condemned the existing system of military administration in India as one of dual control and divided responsibility, the Secretary of State for India held an enquiry into the question early in 1905. On review of the whole question and on the advice of a committee assembled for the purpose, the Government of the day at home decided that in future there should be two ministerial departments or agencies, through which the Governor-General in Council should administer the army in India. The most important, termed the Army Department, should be in charge of the Commander-in-Chief, as Extraordinary Member of Council, and should deal with questions of command, staff and regimental appointments, promotions, discipline, training, organization, distribution of the army, intelligence, mobilization, schemes of offence and defence, peace manœuvres, war preparation and the conduct of war. The other, termed the Military Supply Department, in charge of an Ordinary Member of Council, usually a military officer, should deal with the control of army contracts, the purchase of stores, ordnance and remounts, the management of military works, the clothing and manufacturing departments, Indian Medical Service, and the Royal Indian Marine. At the same time it was suggested that the Military Accounts Department should be transferred to the control of the Finance Department of the Government of India. Owing to the resignation of the Viceroy, Lord Curzon, and the change of ministry at home, the inauguration of the new system

was delayed till March 1906. (For further information on this subject see the published correspondence.)

1899-1906.

In the above it has been impossible to detail anything like the whole of the many reforms and additions made during the last six or seven years. About 500 British officers have been added to the regiments of the native army; a great deal has been done to improve the health and the sanitary surroundings of the soldier; frontier communications have been much improved; a policy of rendering India independent in the matter of war stores of all kinds has been initiated and has made great progress by expansion of the various factories, &c; much has been done to improve the armament, equipment and mobilization arrangements of the Army; the officialre gulations have been revised and simplified and work has been decentralized to a great extent; special attention has been paid to the higher military education of officers; the annual grant for manœuvres has been increased; military grass and dairy farms have been started; and practically every Army department has been reorganized.

During these years the net military expenditure has been as under:—

1899-1900 ..	.. £14,968,399
1900-1901 ..	.. 15,019,576
1901-1902 ..	.. 15,703,582
1902-1903 ..	.. 17,279,770
1903-1904 ..	.. 17,792,405
1904-1905 (estimates). ..	.. 20,488,199
1905-1906 (estimates). ..	.. 20,757,032

In looking at these figures it has to be remembered that, owing to the impoverished finances of India prior to 1900, the military administration had been starved for many years.

Volunteers.

There is little or no mention of Volunteer or Militia Corps in the records of the first half of the nineteenth century, and those in existence before that time appear to have disappeared gradually. The mutiny brought several volunteer corps into being, some of whom did excellent service, and the present volunteer force in India may be said to date its origin from that period. Till 1885, when the strength of the Volunteer Force stood at 13,368, they met with no great encouragement. Since that date it has been the declared policy of the military administration to foster the movement. Grants for buildings, field days and camps of exercise have been made; wound and injury pensions to volunteers and pensions to their widows have been granted under certain conditions; the capitation allowance has been somewhat increased and small allowances towards outfit to officers have been sanctioned. Volunteers in India have been made eligible for the Volunteer Officers' Decoration and the Long Service Medal. Some new corps have been formed and the strength of the force has risen to about 33,000, including however the reserve and cadets, of whom about 31,000 are "efficients."

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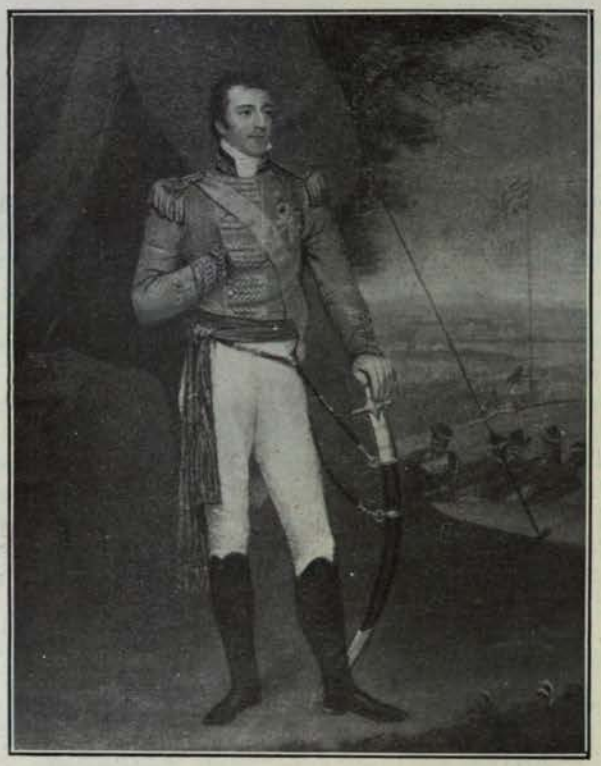
END OF PART I.



The Right Hon. General Sir ARTHUR WELLESLEY (afterwards DUKE OF WELLINGTON).

Lord NAPIER OF MAGDALA.

Sir COLIN CAMPBELL (afterwards LORD CLYDE).

Lieut.-General VISCOUNT GOUGH, G.C.B.

SOME FAMOUS INDIAN GENERALS.

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The Army in India. Part II.

The Army as it exists To-day.

Administration.

The Governor-General in Council, subject to the control exercised for the Crown by the Secretary of State for India, is the supreme head of the Army in India. The ministerial agencies through which the authority of the Governor-General in Council is administered are two: the Army Department and the Department of Military Supply.

The former of these is in charge of the Commander-in-Chief, who is an Extraordinary Member of the Governor-General's Council, while an Ordinary Member of Council, usually a military officer, presides over the latter. In addition, there is a Military Finance Section of the Finance Department to deal with questions of Army Finance.

Under the constitution of the Government of India, the Secretaries to Government in the Army Department, the Department of Military Supply and the Military Finance Department are the heads of these departments: they are responsible to the Governor-General in Council that the business of their departments is carried out in accordance with the authorized rules, and they have direct access to the Governor-General. They are each assisted by an establishment of Deputy and Assistant Secretaries. Further, in this connection, the members of the Army Head-Quarters Staff perform two separate and distinct functions: one, as members of the Head-Quarters Staff in all matters in the control of the Commander-in-Chief as such; the other, the function appertaining to departmental officers of the Army Department, which does not, however, carry with it any of the powers of a Secretary to Government.

Army Department.

Directly under the Army Department is the Army Head-Quarters Staff; this is separated into the following divisions:—

Division of the Chief of the Staff.
Adjutant-General's Division.
Quarter-Master-General's Division.
Medical Division.
Military Secretary's Division.

The Division of the Chief of the Staff, which is subdivided into two sections, (*i*) Military Operations, and (*ii*) Training and Staff Duties, deals with the following questions:—Military policy, organization, distribution, preparation for war, intelligence, mobilization, plans of operations, higher education and training, and manœuvres.

The Adjutant-General's Division deals with questions of recruiting, discipline, training, education and equipment of units.

The Quarter-Master-General's Division, which is subdivided into four sections, (*i*) General Branch, (*ii*) Cantonments, (*iii*) Supply and Transport, and (*iv*) Veterinary, deals with questions of accommodation, movements and cantonments, and with the organization, administration and training of the Supply and Transport Corps (except the portion of it under the Department of Military Supply) and of the Army Veterinary Corps.

The Medical Division deals with all medical questions, except some concerning the administration of the Indian Medical Service, which is partially a civilian department and is partly under the Department of Military Supply.

The Military Secretary's Division deals with appointments, promotions, exchanges and retirements of officers.

For information regarding the numbers and titles of the different officers serving in the Army Department on the Army Head-Quarters Staff, and in the Department of Military Supply or on the departmental staff subordinate to it, the current Indian Army List is the best book of reference. At present they stand as follows:—

Army Department—

Secretary, with rank of Major-General.
1 Deputy Secretary, with rank of Lieutenant-Colonel or Colonel.
1 Assistant Secretary.

Army Head-Quarters—

Division of the Chief of the Staff—

Chief of the Staff, with rank of Lieutenant-General.
2 Directors, with rank of Brigadier-General or Colonel.
4 Assistant Quarter-Masters-General, with rank of Lieutenant-Colonel or Colonel.
7 Deputy Assistant Quarter-Masters-General.
8 Staff Captains.
Attachés: no definite number laid down.

Adjutant-General's Division—

Adjutant-General, with the rank of Major-General.
1 Deputy Adjutant-General, with the rank of Colonel.
4 Assistant Adjutants-General, with the rank of Lieutenant-Colonel or Colonel.

2 Deputy Assistant Adjutants-General.
1 Staff Officer for recruiting.
1 Judge Advocate-General.
Attachés: as a rule limited to 1 or 2.

ADJUTANT-GENERAL'S DIVISION, INSPECTION BRANCH—
3 Inspectors-General of Cavalry, Artillery and Volunteers respectively, each with the rank of Major-General and each with a Brigade-Major as an assistant.
Inspector of Gymnasia.

QUARTER-MASTER-GENERAL'S DIVISION—
Quarter-Master-General, with the rank of Major-General.

QUARTER-MASTER-GENERAL'S DIVISION, MOVEMENTS, QUARTERINGS AND CANTONMENT SECTION—
1 Deputy Quarter-Master-General, with the rank of Colonel.
1 Inspecting Officer of Cantonments.
1 Deputy Assistant Quarter-Master-General.

QUARTER-MASTER-GENERAL'S DIVISION, SUPPLY AND TRANSPORT SECTION—
1 Inspector-General, with the rank of Major-General.
2 Assistant Quarter-Masters-General.
2 Deputy Assistant Quarter-Masters-General.
Attachés: as a rule two.

QUARTER-MASTER-GENERAL'S DIVISION, VETERINARY SECTION—
1 Principal Veterinary Officer.

MEDICAL DIVISION—
1 Principal Medical Officer.
2 Secretaries to Principal Medical Officer.
1 Sanitary Officer.

MILITARY SECRETARY'S DIVISION—
1 Military Secretary, with the rank of Lieutenant-Colonel or Colonel.
1 Assistant Military Secretary.
(Both of these officers are on the personal Staff of the Commander-in-Chief.)

There are the following permanent committees at Army Head-Quarters to secure co-ordination in working between the different parts of the Army :—

MOBILISATION COMMITTEE.

PRESIDENT—H. E. the C.-in-C.
MEMBERS—The Hon'ble Member in charge of the Department of Military Supply.
Chief of the Staff.
Secretary to Government, Army Department.
Secretary to Government, Department of Military Supply.
Adjutant-General.
Quarter-Master-General.
SECRETARY—Officer in charge of the Mobilisation Branch, Division of the Chief of the Staff.

DEFENCE COMMITTEE.

PRESIDENT—H. E. the C.-in-C.
MEMBERS—The Hon'ble Member in charge of the Department of Military Supply.
Chief of the Staff.
Adjutant-General.
Quarter-Master-General.
Director-General of Ordnance.
Inspector-General of Artillery.
Director-General of Military Works.
Officer in charge of Military Operations Section, Division of the Chief of the Staff.

ADDITIONAL MEMBERS FOR COAST DEFENCE—
Director of the Royal Indian Marine.
Inspector of Submarine Mining Defences.

SECRETARY—
Officer in charge of the Strategical Branch, Division of the Chief of the Staff.

ADVISORY COUNCIL.

PRESIDENT—H. E. the C.-in-C.
MEMBERS—
Chief of the Staff.
Secretary to Government, Army Department.
Secretary to Government, Military Finance Department.
Adjutant-General.
Quarter-Master-General.
Director-General of Ordnance.
Military Secretary.
Deputy Adjutant-General.
Deputy Quarter-Master-General.
Officer in charge of Military Operations Section, Division of the Chief of the Staff.

On the two former committees, whose principal duties are to deal with the preparation of the Army for war and the internal and external defences of India, respectively, the Department of Military Supply is represented. The Advisory Council discusses all questions of importance under consideration at Army Head-Quarters, thus co-ordinating the work of the different divisions and keeping the representatives of Government, the Secretaries to Government in the Army, and Military Finance Departments, informed of the progress of these questions; it also enables the latter officers to represent the views of Government at an early stage in the dealings with any question.

Under the Department of Military Supply are the following Army Departments :—
The Military Works Services.
The Ordnance Department.
The Indian Medical Service.
The Contracts and Registration Branch of the Supply and Transport Corps.
The Army Remount Department.
The Army Clothing Department.
The Royal Indian Marine.

The Military Works Services deal with the construction and maintenance of all military works and buildings.

The Ordnance Department arranges for the supply to the Army of all munitions of war and a large part of its equipment.

The Indian Medical Service is partly under the Home Department of the Government of India; the Department of Military Supply deals mainly with the administration of the military portion of the service, consisting of Officers, Assistant-Surgeons and Hospital Assistants.

The Contracts and Registration Branch of the Supply and Transport Corps deals with the contracts for the supply of the Army and with the registration for war of transport animals.

The Army Remount Department supplies remounts to all British, and a few Native, mounted units, and arranges for the importation of all horses and mules required; it has also charge of Government breeding operations.

The Army Clothing Department supplies the Army with clothing.

The Royal Indian Marine, under a Director, who is usually an officer of the British Navy, arranges for sea transport required for the Army. It is not an Army Service, and is placed under the Department of Military Supply for administrative convenience.

Commands and Staff.

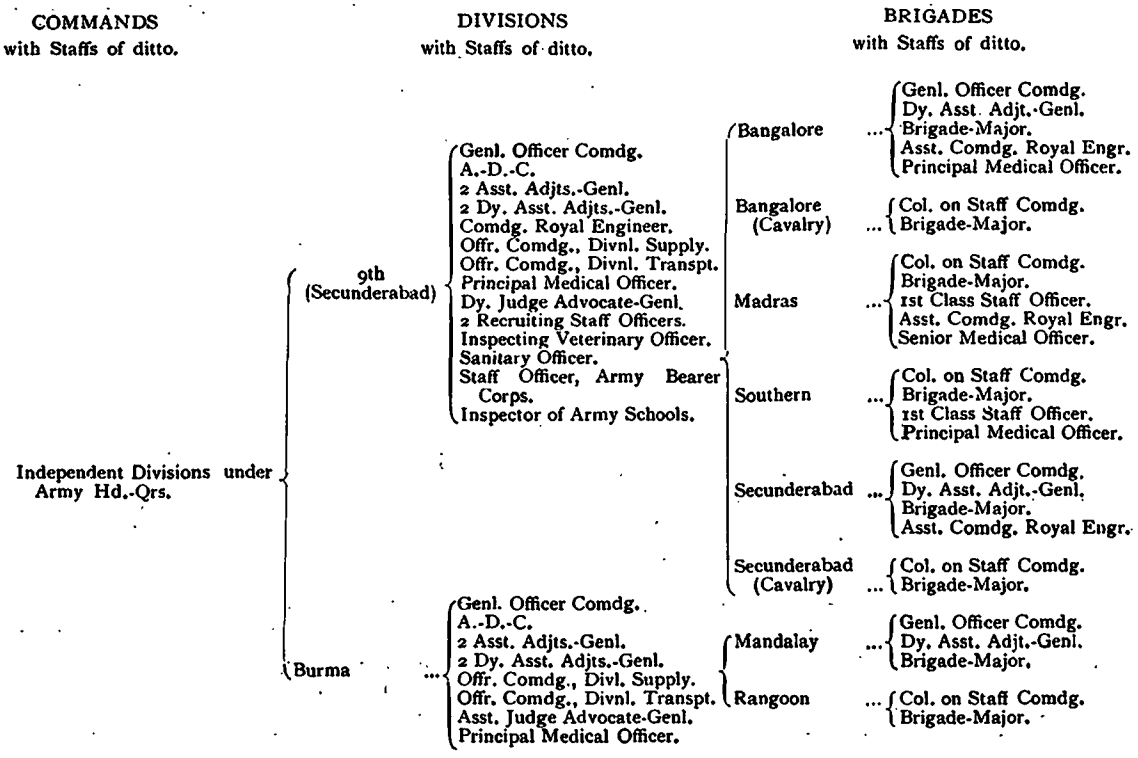
The following table shews the present organization of the Army in Brigades, Divisions and Commands with their principal staff officers. The organization is at present in a transitory stage, as the Secunderabad Division and many of the Brigades are not yet organized as they will be ultimately, when the re-distribution of the Army is completed.

COMMANDS with Staffs of ditto.	DIVISIONS with Staffs of ditto.	BRIGADES with Staffs of ditto.
Northern ... Lt.-Genl. Comdg. Asst. Military Secy. A.-D.-C. Dy. Adjt.-Genl. 2 Asst. Adjts.-Genl. 2 Dy. Asst. Adjts.-Genl. Asst. Qr.-Mr.-Genl. Dy. Asst. Qr.-Mr.-Genl. Col. on Staff, R. A. Dy. Asst. Adjt.-Genl., R. A. Comdg. Engineer. Inspector of S. and T. Corps. Principal Medical Officer. Sanitary Officer. Dy. Judge Advocate-Genl. Inspecting Veterinary Officer. Inspector-Genl. of Ordnance, Northern Circle. Staff Officer, Army Bearer Corps. 4 Recruiting Staff Officers. Inspector of Army Schools. Inspector of Army Signalling, Northern Circle.	1st (Peshawar) ... Genl. Officer Comdg. A.-D.-C. 2 Asst. Adjts.-Genl. Dy. Asst. Adjt.-Genl. Comdg., Royal Engineer. Offr. Comdg., Divnl. Supply. Offr. Comdg., Divnl. Transpt. Principal Medical Officer.	Nowshera ... Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Senior Medical Officer.
		Mardan (Cavalry) ... Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer.
		Jhelum ... Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer. Senior Medical Officer.
	2nd (Rawalpindi) ... Genl. Officer Comdg. A.-D.-C. 2 Asst. Adjts.-Genl. Dy. Asst. Adjt.-Genl. Comdg. Royal Engineer. Offr. Comdg., Divnl. Supply. Offr. Comdg., Divnl. Transpt. Principal Medical Officer.	Abbottabad ... Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Principal Medical Officer.
		Sialkot (Cavalry) ... Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Principal Medical Officer.
		Jullundur ... Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Principal Medical Officer.
	3rd (Lahore) ... Genl. Officer Comdg. A.-D.-C. 2 Asst. Adjts.-Genl. Dy. Asst. Adjt.-Genl. Comdg. Royal Engineer. Offr. Comdg., Divnl. Supply. Offr. Comdg., Divnl. Transpt. Principal Medical Officer.	Ambala ... Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Principal Medical Officer.
		Ambala (Cavalry) ... Col. on Staff Comdg. Brigade-Major.
		Ferozepore ... Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer.
	Independent Brigades.	Kohat ... Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Principal Medical Officer.
		Derajat ... Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Principal Medical Officer.
		Bannu ... Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer. Principal Medical Officer.

COMMANDS with Staffs of ditto.	DIVISIONS with Staffs of ditto.		BRIGADES with Staffs of ditto.	
Western ...	4th (Quetta) ...	Genl. Officer Comdg. A.-D.-C. 2 Asst. Adjts.-Genl. Dy. Asst. Adjt.-Genl. Comdg. Royal Engineer. Offr. Comdg., Divnl. Supply. Offr. Comdg., Divnl. Transpt. Principal Medical Officer.	Karachi ...	Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer. Asst. Comdg. Royal Engr. Principal Medical Officer.
	5th (Mhow) ...	Genl. Officer Comdg. 2 A.-D.-Cs. 2 Asst. Adjts.-Genl. Dy. Asst. Adjt.-Genl. Comdg. Royal Engineer. Offr. Comdg., Divnl. Supply. Offr. Comdg., Divnl. Transpt. Principal Medical Officer.	Nasirabad ...	Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major.
			Jubbulpore ...	Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Principal Medical Officer.
			Jhansi ...	Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer. Principal Medical Officer.
	6th (Poona) ...	Genl. Officer Comdg. 2 A.-D.-Cs. 2 Asst. Adjts.-Genl. Dy. Asst. Adjt.-Genl. Comdg. Royal Engineer. Offr. Comdg., Divnl. Supply. Offr. Comdg., Divnl. Transpt. Principal Medical Officer.	Belgaum ...	Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer.
			Bombay ...	Genl. Officer Comdg. 3 Dy. Asst. Adjts.-Genl. Brigade-Major. Principal Medical Officer.
			Ahmednagar ...	Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major.
	Independent Brigade		Aden ...	Genl. Officer Comdg. A.-D.-C. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Principal Medical Officer.
Eastern ...	7th (Meerut) ...	Genl. Officer Comdg. A.-D.-C. 2 Asst. Adjts.-Genl. Dy. Asst. Adjt.-Genl. Comdg. Royal Engr. Offr. Comdg., Divnl. Supply. Offr. Comdg., Divnl. Transpt. Principal Medical Officer.	Meerut (Cavalry) ...	Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer.
			Bareilly ...	Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Principal Medical Officer.
			Garhwal ...	Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Principal Medical Officer.
	8th (Lucknow) ...	Genl. Officer Comdg. A.-D.-C. 2 Asst. Adjts.-Genl. Dy. Asst. Adjt.-Genl. Comdg. Royal Engineer. Offr. Comdg., Divnl. Supply. Offr. Comdg., Divnl. Transpt. Principal Medical Officer.	Fyzabad ...	Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer.
			Assam ...	Col. on Staff Comdg. Brigade-Major. 1st Class Staff Officer.
			Allahabad ...	Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr.
			Presidency ...	Genl. Officer Comdg. Dy. Asst. Adjt.-Genl. Brigade-Major. Asst. Comdg. Royal Engr. Principal Medical Officer.

Western ... Lt.-Genl. Comdg.
Asst. Military Secy.
A.-D.-C.
Dy. Adjt.-Genl.
2 Asst. Adjts.-Genl.
2 Dy. Asst. Adjts.-Genl.
Asst. Qr.-Mr.-Genl.
Col. on Staff, R. A.
Dy. Asst. Adjt.-Genl., R. A.
Comdg. Engineer.
Inspector, S. and T. Corps.
Principal Medical Officer.
Sanitary Officer.
Staff Officer, Army Bearer Corps.
Dy. Judge Advocate-Genl.
Recruiting Staff Officer.
Inspecting Veterinary Officer.
Inspector-Genl. of Ordnance, Southern Circle.
Inspector of Army Schools.
Inspector of Army Signalling, Southern Circle.

Eastern ... Lt.-Genl. Comdg.
Asst. Military Secy.
A.-D.-C.
Dy. Adjt.-Genl.
2 Asst. Adjts.-Genl.
2 Dy. Asst. Adjts.-Genl.
Asst. Qr.-Mr.-Genl.
Dy. Asst. Qr.-Mr.-Genl.
Col. on Staff, R. A.
Dy. Asst. Adjt.-Genl., R. A.
Comdg. Engineer.
Inspector, S. and T. Corps.
Principal Medical Officer.
Sanitary Officer.
Staff Officer, Army Bearer Corps.
Dy. Judge Advocate-Genl.
4 Recruiting Staff Officers.
Inspecting Veterinary Officer.
Inspector of Army Schools.



For table showing Strength and Distribution of the Army, see page 74.

Command and Staff Appointments.

Appointments are made by selection, and all staff appointments are tenable for three years, extensible to five years. It is with few exceptions a general rule that all staff appointments are equally divided between officers of the British and Indian services. To qualify for staff employment an officer must be a Staff College graduate, or have qualified for promotion to Major, and must have passed the Higher Standard Examination in Hindustani.

Certain appointments usually carry certain ranks: the appointment of Commander-in-Chief carries the rank of General; the command of the Northern, Eastern or Western Command, of the Burma Division, and the appointment of Chief of the Staff carries the rank of Lieutenant-General; command of a division, also appointment as Secretary to Government in the Army Department, as Adjutant-General, as Quarter-Master-General, as Inspector-General of Cavalry, Artillery or Volunteers, and as Director-General of Military Works, Ordnance or Supply and Transport, and 12 Brigade Commands carry the rank of Major-General. The following appointments qualify, if the recipient is a Brevet-Colonel or a Lieutenant-Colonel with three years' full pay service in that rank, for the rank of substantive Colonel:—Deputy Adjutant or Quarter-Master-General, Judge Advocate-General, Deputy Secretary to Government in the Army Department or Department of Military Supply, Assistant Adjutant-General or Quarter-Master-General, Military Secretary to the Viceroy or Commander-in-Chief, Deputy Director-General (or Inspector-General) of Ordnance, Military Works or Supply and Transport, Chief Engineer (Military or Public Works), Commanding Royal Engineer of a Division and Superintending Engineer, Public Works Department.

Command of regiment.

The rules for command of a British unit are similar to those in force at home; the tenure of command of a native regiment is limited to five years, extensible to seven years.

Training of officers.

Officers commanding regiments are responsible for the training of their officers except in subjects such as musketry, signalling, gymnastics, and mounted infantry, transport and veterinary training, for which special classes are held. Officers have to pass technical examinations before promotion to Lieutenant, Captain and Major respectively, and before obtaining command of a regiment.

Staff College.

Entrance to the Staff Colleges at Camberley and Quetta (in temporary quarters now at Deolali) is gained by passing a competitive examination, or by obtaining a special nomination. No officer can compete unless recommended by the General Officer under whom he is serving, and who has personally to test his capabilities, as likely to make an efficient Staff Officer. He can compete for Camberley or Quetta at his option, as the syllabus and method of instruction in both colleges only differ to the extent necessitated by climatic and local circumstances. At the Indian Staff College there is a

Commandant (a Brigadier-General) with six military Professors usually Lieutenant-Colonels or Colonels, who form the teaching staff. The course lasts two years, and comprises theoretical and practical training in all military subjects. Twenty-four students are admitted annually, of whom approximately one-third are from the British service and two-thirds from the Indian Army. On graduating finally, an officer is entitled to the letters "*p. s. c.*" after his name, and is qualified for staff employ. The actual nature of the staff work on which he is employed subsequently depends upon the report made upon his capabilities by the Commandant and Professors of the Staff College. An officer at the Indian Staff College draws full Indian regimental pay and allowances; at Camberley, British pay of rank and allowances.

Officers of the Indian Army.

British officers with Native regiments, in staff appointments open to the Indian Army, and in Army Departments and civil employment to which engineer, artillery and medical officers have not necessarily to be appointed for their technical knowledge, are borne on one list, called the Indian Army. Although appointed primarily for military duty in India, any officer on this list can, at the option of the Governor-General in Council, be detailed for work of any nature. A certain number of direct appointments to the Indian Army are offered annually to candidates for commissions from the Royal Military College, Sandhurst, and are accepted usually by those passing out among the highest on the list. Officers appointed in this way are attached to a British regiment in India for one year before being appointed to a Native regiment. Other vacancies are filled up by the appointment of officers volunteering from British regiments. No officer can leave a Native regiment for staff, departmental or civil employment until he has three years' service and has passed the necessary examination in Hindustani and in professional subjects.

Promotion in the Indian Army is regulated by a time scale. Unless an officer's promotion is accelerated or retarded specially, he attains the rank of Captain after 9, of Major after 18 and of Lieutenant-Colonel after 26 years' service respectively. Accelerated promotion may be granted to a limited number of Lieutenants and Captains annually for good service, and to a Major obtaining command of a regiment or an appointment on the Staff which qualifies for the rank of Colonel. Promotions to the rank of General are made entirely by selection: the establishment of these for the Indian Army is:—Generals 3, Lieutenant-Generals 5, Major-Generals 22.

Officers appointed permanently to civil employ are struck off the roll of their regiments, and after ten years' absence from military duty are borne on a supernumerary list, on which they can rise, under the time scale, to the rank of Lieutenant-Colonel, but no higher. The pay of officers in the Indian Army on military duty consists of pay of rank *plus* staff pay, except in the higher appointments where a consolidated salary is given. Pay of rank never varies, and is as follows (monthly rates):—Lieutenant, Rs. 225; Captain, Rs. 374; Major, Rs. 640; Lieutenant-Colonel or Colonel, Rs. 827. Staff pay varies according to the nature of work on which an officer is employed; in a Native Cavalry regiment, it rises from Rs. 150 to Rs. 700; in a Native Infantry regiment, it rises from Rs. 100 to Rs. 600; and in Staff employ, it rises from Rs. 200 to Rs. 1,000 till it reaches the consolidated scale, when an officer's pay and allowances can rise to the Rs. 4,500 of a Lieutenant-General of a Command or the annual Rs. 100,000 of the Commander-in-Chief.

Furlough to England up to a year, extensible to two years on urgent private affairs, is granted if the officer's services can be spared, at any time in an officer's service: while thus absent, he draws special sterling rates of pay, which rise from £200 to £600 a year. If absent for more than two years from ill-health, an officer is transferred to the temporary half-pay list. Pensions on retirement are granted after 20 years' service, and are as follows:—After 20 years, £250; after 25 years, £365; after 26 years, £438; after 28 years, £500; after 32 years, £700; while Major-Generals, Lieutenant-Generals and Generals get pensions of £800, £900 and £1,000 a year, respectively. For other conditions of service, reference should be made to the small pamphlet (price 1*d.*) on the subject, issued by the India Office.

Organization and strength of British Corps.

British Corps* in India are organized on the same lines as those of the same branch serving at Home, while their armament, equipment and clothing are identical, except for the differences necessitated by climatic conditions. Each unit has an establishment of Native followers, such as lascars, bhistis, sweepers, syces, etc., and a proportion of these, as well as a limited number of officers' private Native servants, accompanies the unit on field service.

Artillery batteries and ammunition columns have a certain number of enlisted native drivers: the numbers of these vary slightly in each kind of unit, but they are calculated on the principle that all 'first line' vehicles should be manned by British drivers.

The strength of the different units is as follows:—

	Officers.	N. C. Os. & Men.	Total.
Cavalry regiment	29	598	627
R. H. A. or R. F. A. battery	5	157†	162
Heavy battery	5	91†	96
Howitzer battery	6	217	223
Mountain battery	6	141	147
Garrison Artillery Coy.	5	140	145
Infantry battalion	29	1,004	1,033

Recuitment, enlistment and conditions of service.

Although there is no objection to enlisting suitable men in India, practically all the recruitment and enlistment for the British forces in this country is carried out at Home, under terms arranged by the War Office, who are responsible for keeping units up to proper strength. Units come out to India under a regular system of reliefs and remain for about 10 years if they are Cavalry or Artillery units, and about 16 years if an Infantry battalion.

* Cavalry regiments in India have 4 squadrons.
† These numbers are under revision.

During this period the rank and file change frequently, as the average tour of service of the private soldier in India is a little over 5 years. While in India, all charges on account of these units are paid by the Indian Government, who, in addition, pay the War Office a regular proportion of the cost to the latter of enlisting and training officers and men, and of the pensions, gratuities and other contingent expenses incurred by them.

Proportion of British to Native troops.

In accordance with the recommendation of the Royal Commission in 1858, a definite proportion between the numbers of British and Native troops is still maintained. Originally, this proportion was 1 British to every 2 Native soldiers in Bengal and to every 3 Native soldiers in Madras and Bombay, respectively. The proportion now, taking into account reserve and auxiliary forces, is about 1 British to 2·5 Native soldiers throughout India.

Organization and strength of Native Corps.

Native Cavalry and Infantry regiments are practically all organized on the class regiment or the class squadron or company system. This means in the first case that the whole regiment is composed of one class, *i.e.*, Sikhs, Dogras, Gurkhas, Rajputs, Hazaras, Moplahs, etc., and in the second case that every squadron or company is formed entirely of one class, though there may be, and generally are indeed in the Infantry, more than one squadron or company of each class in one regiment. The reasons for this system are to a certain extent political, as tending to prevent any such formidable coalition against us as occurred in the Indian Mutiny; they are also on the grounds of efficiency, for it is found that the class system is popular, and consequently attracts a better class of men; moreover, it creates a reasonable spirit of rivalry between units.

There are the following class regiments:—

CAVALRY:—

Musalmans. 1st and 2nd Lancers, 17th Cavalry.

Jats. 14th Lancers.

INFANTRY:—

Sikhs. 14th, 15th, 35th, 36th, 45th and 47th Sikhs and 23rd, 32nd and 34th Pioneers.

Dogras. 37th, 38th and 41st Dogras.

*Gurkhas.** 1st, 2nd, 3rd, 4th, 5th, 6th, 7th 8th, 9th and 10th Gurkhas.

Brahmans. 1st and 3rd Brahmans.

Rajputs. 2nd, 4th, 7th, 8th, 11th, 13th and 16th Rajputs.

Jats. 6th and 10th Jats.

Mahrattas. 114th, 116th and 117th Mahrattas.

Garhwalis. 39th Garhwalis (2 Battalions).

Moplahs. 77th and 78th Moplah Rifles.

Hazaras. 106th Hazara Pioneers.

* All the Gurkha regiments, except the 7th and 8th, have 2 battalions.

All other regiments have class companies or squadrons, even though called "Sikhs" like the 53rd Sikhs, or "Pathans" like the 40th Pathans. For details of these, reference should be made to the current Indian Army List published by Army Head-Quarters.

Native Cavalry organization.

Each Cavalry regiment is organized in 4 squadrons, and has 13 to 14 British officers in addition to a British Medical officer; namely, a Commandant, 4 Squadron Commanders (of whom one is 2nd-in-Command), an Adjutant and 7 to 8 Squadron Officers. There are 625 Natives of all ranks, including Native officers; of the latter the Risaldar-Major is the senior and there are, usually, in addition, 3 Risaldars and 4 Ressaidars, each commanding a half squadron, and also 9 Jemadars: the non-commissioned officers are called "Daffadars" and the privates "Sowars." All Cavalry regiments, except the 26th, 27th and 28th Light Cavalry are what is termed Sillahdar regiments. Broadly speaking, this means that every man contracts with the State for a fixed monthly payment for his own services, mounted and armed, and that, beyond this fixed monthly payment and the usual pensionary charges, the State incurs no pecuniary responsibility on his account. As a matter of fact, the State now supplies rifles and ammunition and gives compensation if a man's rations and his horse's food cost more than a certain sum.

Native Infantry organization.

Each Infantry battalion is organized in 4 double companies (of 2 companies each) and has, usually, 13 to 14 British officers in addition to a British Medical officer; these are, a Commandant, 4 Double Company Commanders (of whom one is 2nd-in-Command), an Adjutant, a Quarter-master and 6 to 7 double company officers. There are 912 Natives of all ranks, including Native officers; the latter are 1 Subadar-Major and 7 Subadars, each commanding a company, with 8 Jemadars: the non-commissioned officers are Havildars and Naicks, and the privates are called "Sepoys."

Native Mountain Battery.

A Native Mountain battery has 6 guns and is divided into 3 sections. There are 5 British officers who belong to the Royal Garrison Artillery and not to the Indian Army, namely, 1 Captain * and 4 Lieutenants; there are 135 Native gunners, including Native officers (of whom there are 3) and non-commissioned officers and 234 Native drivers, including non-commissioned officers.

Sappers and Miners.

A Company of Sappers and Miners usually consists of 2 British officers and 2 non-commissioned officers of the Royal Engineers and 170 Native ranks, including 3 Native officers.

Recruitment and Enlistment.

Recruiting staff officers are appointed for each of the principal classes and castes composing the Native Army, and recruiting is mainly conducted under their supervision, though many men are

* Majors are shortly to be appointed to command all Native Mountain batteries.

recruited through relatives and friends and join regiments direct. There are the following recruiting staff officers :—

Class or Caste.	*Head-quarters of R. S. O.*
Sikhs	Jullundur and Amritsar.
Dogras	Jullundur and Dharmsala.
Pathans	Peshawar.
Punjabi Mahomedans	Jhelum.
Gurkhas	Gorakhpur.
Mahrattas and Dekhani Musalmans ..	Poona.
Hindustani Hindus	Lucknow.
Jats and Hindustani Musalmans ...	Delhi.
Rajputana and Central India Hindus and Musalmans	Agra.
Madrasi Musalmans	Bangalore.
Madrasi Hindus and Christians ...	Trichinopoly.

Enlistment is for general service, within or outside British territories and beyond sea if necessary: the age of enlistment is usually 16 to 25 and the standard of height 5 ft. 7 ins. : in ordinary times a man may claim his discharge after 3 years' service.

Discipline.

Commandants of Native corps have considerable disciplinary powers, especially in the authority which empowers them to hold 'summary' courts-martial, of which they alone constitute the court, although other officers are required to 'attend' such a court-martial. For further details regarding disciplinary powers, a reference should be made to the Indian Articles of War to which all Native ranks of the army in India are subject.

Location of Native Corps.

Native regiments move in relief every 3 or 4 years and as a general rule are located in cantonments within reasonable distance of the area from which their men are recruited. Thus, men recruited in the Punjab are generally stationed in a cantonment of one of the first 3 divisions (Peshawar, Rawalpindi and Lahore); men recruited in Rajputana, Central India, the United Provinces and Nepal in cantonments of the Meerut and Lucknow divisions; men recruited in the West of India and the Dekkan in cantonments of the Mhow and Poona divisions; and men recruited in Madras in cantonments of the Secunderabad Division. At the same time, all corps are liable to, and do, serve in any part of India, and troops of all castes and classes are found serving on the frontiers, in Burma and in the colonial garrisons of Hong Kong, North China, Singapore and Ceylon. The principle of having local regiments for service in Burma, Baluchistan and the N.-W. Frontier is gradually being discontinued, and shortly the only localized regiments remaining will be those of Gurkhas.

Language of Native Army.

Urdu (or Hindustani) is understood throughout the Native Army, although most classes have a language or dialect of their own, and British officers serving with Native corps have, in addition to passing in Urdu, to pass a colloquial test in the language spoken by the majority of the men of their unit.

Pay, Pensions and Promotion in the Native Army.

The pay of the Infantry sepoy is Rs. 9 per month, and it rises, as he may get promotion, to Rs. 150 a month of the Subadar-Major. The Cavalry sowar gets Rs. 31 a month, and this amount rises to the Rs. 300 a month of the Rissaldar-Major. All Native soldiers have to feed themselves out of their pay, but they receive compensation from Government when the cost of their food exceeds a certain limit. The Cavalry sowar has also to feed his horse and to clothe and equip himself and his horse out of his pay, but he receives assistance from Government in the provision of grass, and when the cost of grain exceeds a certain amount, and he is provided free with his rifle and ammunition. Extra pay, called good conduct pay, can be earned by the soldier, and rises from Re. 1 to Rs. 3 a month; in the case of the non-commissioned officer it is called good service pay, and rises from Re. 1 to Rs. 4 a month.

Pensions after 21 years' service, or if invalided, after 15 years' service, rise from Rs. 4 a month for a private, to Rs. 30 a month for a Risaldar or Subadar-Major, and after 32 years' service from Rs. 6 to Rs. 50 for the same ranks.

Pensions are also granted for wounds received on field service, and to the families of soldiers deceased during field operations or on foreign service.

It is open to all ranks of the Native Army to rise to the highest grade of Native officer, and these in retirement receive the honorary rank of Captain. Certain educational and technical military tests are required from candidates for promotion, for the position of Native officer is one of considerable responsibility. A certain percentage of commissions are given direct to Native gentlemen who are recommended for these by the civil, and approved by the military, authorities: before final confirmation in these appointments, Native gentlemen have to serve on probation for 2 years.

Medals and Orders, Native Army.

As in the case of the British service, the rank and file of the Native Army can earn a medal for long service with good conduct, while the Native officer can earn the "Order of British India" for long, faithful and honourable service. For personal bravery there is an "Indian Order of Merit" in three classes. All of these medals and orders carry monetary allowances.

Indian Army Reserve.

Most Native units have a fixed establishment of reservists, to which men of over 3 years' service with the colours and under 32 years of age may be transferred. The total sanctioned establishment of the reservists for the Indian Army stands at present at about 30,000, but it is being increased annually, until it shall reach a strength of 50,000. At present the establishments for each of the different units is generally as follows :—

Ammunition Column, R.H.A. ...	25
Do. do. R.F.A. ...	63
R.G.A. Coy.	13
Mountain Battery, R.G.A. ...	44—48
Native Mountain battery ...	66—70
Sapper and Miner corps ...	180—304
Railway company ...	260
Native Cavalry regiment ...	20—40
Native Infantry battalion ...	60—334

Reservists are trained annually or biennially at fixed territorial centres, where their arms, equipments and clothing are stored. On mobilization, they are called upon to rejoin the colours at the depôts

of their former units (or of one of the linked units) as required. A reservist receives Rs. 2 a month when away from the colours or when not up for training.

Armament and Equipment.

Artillery.—Heavy batteries of Artillery are armed generally with a B. L. 5-inch gun, the Horse and Field Artillery are being rearmed with the 13½ and 18½-pounder Quick-Firing gun, respectively, and mountain batteries have a 10-pounder gun.

Cavalry and Infantry.—The Cavalry and Infantry have the short Lee-Metford magazine rifle with bandolier equipment. In addition the Cavalry also carry a sword and lance, or a sword. Each regiment with a place in the field army has also 2 Maxim machine guns.

Engineers.—The Corps of Sappers and Miners have railway, bridging, telegraph, balloon and other technical units in addition to the usual engineer equipment. There are also 12 battalions of Native pioneers with special Pioneer equipment for engineering work.

Clothing.

The ordinary clothing for British and Native troops for the cold weather is serge; blue, red, green, or drab, according to the regimental pattern. Khaki drill is the field service and usual hot-weather dress for all troops, while white drill is worn by British troops on Ceremonial and Church Parades, etc. British troops are supplied with clothing and necessaries by the Army Clothing Department, some of the clothing being made up regimentally; and the same agency supplies the Native army, except the Sillahdar Cavalry (who arrange for the whole of their clothing themselves), with serge clothing. For the rest of his clothing and necessaries the Native soldier (except in the Sillahdar Cavalry) receives a fixed sum on enlistment as kit money, and afterwards an annual half-mounting allowance, arrangements being made regimentally for the supply.

Rations.

The British soldier always receives free rations in this country, and these are arranged for by the Supply and Transport Corps. The Native soldier makes his own arrangements for food during peace time, and receives compensation from Government if the cost of his ration exceeds a fixed monthly limit: on field service he receives free rations, which are arranged for by the Supply and Transport Corps.

Mounted Infantry.

There is no permanently organized body of Mounted Infantry in India. There are Mounted Infantry Schools at Sialkote, Ambala, Poona, Fatehgarh and Bangalore, and selected officers and men are sent from the different British and Native Infantry regiments to undergo courses of instruction at these schools. From these trained men, who do annual repetition courses, the necessary number of Mounted Infantry battalions would be formed on mobilization. A Mounted Infantry battalion is 500 to 600 strong, is organized in four companies, and has a machine gun section.

Indian Army Reserve of Officers.

One of the greatest difficulties in the case of a big war, will be to obtain a sufficient supply of officers for the Indian Army. The formation of an Indian Army Reserve of officers was sanctioned in 1894, but the numbers have never exceeded 40 or 50. The reserve is open to any officials and private gentlemen in India who are not military officers, to certain retired military officers and to volunteers. They must be recommended by the General Officer Commanding the District in which they reside, they must have attained a certain degree of efficiency in military training, and they are all liable to military service in case of necessity. They undergo no training, and have merely to report their whereabouts twice a year.

Judge Advocate-General's Department.

The Judge Advocate-General and his 5 Assistants are the advisers of the Army on military law matters. They are recruited from officers of the Indian Army.

Medical Services.

The Principal Medical Officer, His Majesty's Forces in India, is usually an officer of the Royal Army Medical Corps, and is responsible, under the orders of the C.-in-C., for all military medical arrangements in India. Military medical duties in India are carried out by officers of the Royal Army Medical Corps and Indian Medical Service, by Assistant Surgeons and Hospital Assistants of the Indian Subordinate Medical Department, by Nurses of Queen Alexandra's Military Nursing Service for India, by the Army Bearer Corps, and by the menial servants of the Army Hospital Corps and those attached to Native units.

Royal Army Medical Corps.

Officers of the Royal Army Medical Corps, which is organized and administered under the orders of the Army Council, come out to India on a five-years' tour of duty in regular relief. Their work in India is primarily the medical charge of British troops, although at times they have Native troops also under their care. The fixed establishment of R. A. M. C. Officers in India is at present 337. There is a Principal Medical Officer in each Command and Division and in some of the Brigades; in the remainder of the Brigades and in all stations, there is a Senior Medical Officer: all the military medical arrangements of the Command, Division, Brigade or Station are supervised by these officers acting under the orders of the General or other Officer Commanding. The appointments of Principal Medical officer are divided equally between the Royal Army Medical Corps and the Indian Medical Service. Medical officers are not attached to British units during peace time, as all British troops are treated in Station Hospitals.

Indian Medical Service.

The Indian Medical Service is recruited for duty in India and is primarily a military service: but a very large number of its officers are permanently employed on purely civil duties, of whom a certain proportion, however, are available to return to military duty on mobilization, if required. The head of the service is the Director-General, Indian Medical Service, and his main duties are civil, for which purpose he is under the Home Department of the Government of India; but he is also the adviser of the Department of Military Supply on all questions relating to the military portions of the Indian Medical Service and the Indian Subordinate Medical Department. Each Native Cavalry regiment and Infantry battalion has an officer of the Indian Medical Service who is in medical charge of

the unit. In addition, the Indian Medical Service maintains Medical Store Depôts at Calcutta, Madras, Bombay, Lahore and Rangoon for the supply of medical stores and equipment. All officers of the Indian Medical Service have at first to do a certain period of military duty, and in attaining the rank of Colonel are liable to be recalled to military duty as Principal Medical Officers. The present strength of the Indian Medical Service is 727 officers.

The Indian Subordinate Medical Department is recruited and trained in India for duty in India with the Army and in civil employ. The present establishment is 672 Assistant Surgeons and 932 Hospital Assistants, of whom large numbers are in civil employ, but of whom a certain proportion is available for military duty on mobilization, if required. The Assistant Surgeons in military employ do duty almost exclusively with British troops, while Hospital Assistants are almost always attached to Native units, of the smaller of whom they are sometimes in medical charge.

Queen Alexandra's Military Nursing Service for India.

Queen Alexandra's Military Nursing Service for India is recruited in England for service in India and with British troops. The present establishment is, 4 Lady Superintendents, 15 Senior Nursing Sisters and 65 Nursing Sisters. Nursing Sisters come out under a 5-years' agreement, which can be extended.

Army Bearer Corps.

The Army Bearer Corps is organized in 32 companies of 100 Kahars (or bearers), each under an Assistant Surgeon. There is a Medical officer as Staff officer of the Army Bearer Corps in each of the 3 Commands, and there is one for the Secunderabad and Burma Divisions, whose duties are the administration and general superintendence of the bearer companies in his Command. The main duty of the Bearer Corps is the carrying of dhoolis (a sort of covered stretcher carried by 4 men).

Army Hospital Corps.

The Army Hospital Corps is organized in 11 companies, and comprises all the Native menial servants on duty with British Station Hospitals, such as ward orderlies, cooks, bhistis, sweepers, dhobis, etc. Native units have establishments of these menials, and have also 1 or 2 enlisted soldiers as ward orderlies.

Medical arrangements on Field Service.

Medical assistance to men in the fighting line (so to speak) is afforded by Medical officers attached to units, British and Native: unless a man's wound or ailment is trifling, he is then sent to a Field Hospital; these are equipped with 100 beds each and some accompany troops to the front, while others remain at posts on the lines of communication: if a man requires lengthened treatment, he is sent down to one of the nearest General Hospitals, which are each equipped with 500 beds and are situated at the different advanced and other convenient bases: from here the man either returns to the front or is invalided to his home, proceeding possibly by hospital train and hospital ship.

Supply and Transport Corps.

The Supply and Transport Corps arranges at all times for the food of British troops and for forage for their horses, and for their bedding, barrack and hospital supplies and, on field service and in certain localities, it performs the same functions for Native troops: the whole of the military transport maintained in peace is in its charge, and it looks after the registration of transport animals. Part of the Corps is under the Department of Military Supply with a Director-General of Contracts and Registration at its head and separate staffs in each command and division. The remainder of the Corps is under the Quarter-Master-General, with an Inspector-General at its head; with Inspectors in each command; with an Officer Commanding Divisional Supply, an Officer Commanding Divisional Transport, and a Divisional Accounts Officer in each division; and with various assistants at Army and Command Head-quarters and in divisions, brigades and stations. The present strength of the Corps is 271 officers and 524 warrant and non-commissioned officers. The portion of the Supply and Transport Corps under the Department of Military Supply arranges for the contracts of supplies and for the registration of transport, while the part of the Corps under the Quarter-Master-General arranges for the supply to troops of the various articles with which it deals, and is in charge of the transport maintained during peace. The greater part of the latter is organized in corps or cadres; the first are kept up at full strength and ready for mobilization, while the latter are expanded on mobilization by means of men from the transport reserve and enlisted for the occasion and by animals hired or purchased on mobilization, a large number of which have been registered for this during peace. There are the following corps and cadres:—

MULE TRANSPORT:—
- 4 Cavalry Brigade Mule Corps, each with a carrying power of 121 tons.
- 3 Cavalry Brigade Mule Cadres.
- 17 Pack Mule Corps, each with a carrying power of 48 tons.
- 15 Pack Mule Cadres.

PONY TRANSPORT:—
- 2 Pony Cart Train Cadres.

CAMEL TRANSPORT:—
- 9 Silladar Camel Corps, each with a carrying power of 157 tons.
- 4 Grantee Camel Corps.

BULLOCK TRANSPORT:—
- 121½ Bullock Half-troops.

In addition to the above, there are mule, camel and bullock transport maintained with certain regiments and for special services on the frontier.

Cantonment Magistrates' Department.

The various cantonments in India are administered under the authority of the Cantonment Code by a Cantonment Committee composed of military officers. The Secretaries to these Committees are Cantonment Magistrates who are military officers; they are borne on a separate list and are held to be in civil employ. They carry out the orders of the Cantonment Committee and perform the judicial duties

of the cantonment. Cantonment Magistrates, of whom there are at present 38, with 6 Assistant Cantonment Magistrates, are under the Quarter-Master-General in India and to a certain extent (mainly in regard to their judicial duties) under Local Governments. The Quarter-Master-General has an Inspecting Officer of Cantonments to assist him, who is selected usually from among the Senior Cantonment Magistrates.

Veterinary Services.

Officers of the Army Veterinary Corps come out to India for a tour of duty in the same way as officers of the Royal Army Medical Corps, and their duty lies principally with British troops. Some of them, however, are attached to the Army Remount Department and assist in supervising breeding operations. There is also a Civil Veterinary Service in India, appointments to which are made from the Army Veterinary Corps. Native Veterinary Assistants are trained at the Veterinary Colleges in India, and are appointed to Native Cavalry regiments, Transport corps, etc., where their work is supervised by Inspecting officers of the Army Veterinary Corps.

Military Works Services.

The Director-General of Military Works, a Major-General in the Army, is the head of the Royal Engineers in India. He is to a certain extent a Staff officer, as he is technical adviser to the Commander-in Chief, but he is responsible to the Department of Military Supply for the construction and maintenance of fortifications and other military works and buildings.

The present establishment of officers of the Military Works Services is 181, of whom 15 are at present civilians, and the remainder Royal Engineers. There is no fixed scale for the subordinate establishment which, in addition to a large number of military warrant and non-commissioned officers, comprises a certain number of civilians. The officers are graded according to their seniority in the Corps of Royal Engineers, and the organization has been adjusted to suit the different Army commands. In each command there is a Chief Engineer with a Staff officer, in each division a Commanding Royal Engineer, and in each independent brigade an Assistant Commanding Royal Engineer.

Royal Engineer Officers in India.

The present authorized strength of Royal Engineer officers in India is based on the war requirements of the Army and is 392; the War Office, however, have not yet completed the establishment to this strength. There is no longer 'continuous service' for Royal Engineer officers in India, but they can qualify for an Indian pension after 20 years' service in this country.

They are eligible for appointments on the Army Staff, in the Military Works Services, with the different Corps of Sappers and Miners or Sub-Marine Miners, and in the Public Works, Survey and various other Civil Departments. Those in the Public Works and Civil Departments are liable to be recalled to military employ in case of war.

The Director-General of Ordnance, an officer of the rank of Major-General, is technical adviser to the Commander-in-Chief, but is responsible to the Department of Military Supply for the administration of the various arsenals and factories, from which the Army and auxiliary forces (including Imperial Service Troops, Frontier Militia and Police) are supplied with all munitions of war and with most of their equipment. He has under his orders 72 officers (seconded from the Royal Artillery) and 501 warrant and non-commissioned officers, in addition to many civilian engineers, mechanics, etc. The Ordnance Department is also responsible for the maintenance during peace of the authorized reserves of munitions and stores of ordnance supply required for the Field Army. Under the Director-General there is an Inspector-General of Factories, who is responsible for the various manufacturing establishments, while the arsenals are administered, also under the orders of the Director-General, by Inspectors-General of whom there are 2, namely, one for each of the Northern and Southern Circles.

The Ordnance Department.

The various manufacturing establishments of the Ordnance Department are as follows :—

Harness and Saddlery Factory	at	Cawnpore.
Do. do. Workshops	„	Madras.
Gun Carriage Factory	„	Jubbulpore.
Cordite Factory	„	Aruvankad (near Wellington).
Gun and Shell Factory	„	Cossipore.
Rifle Factory and Rolling Mills	„	Ishapore.
Small Arms Ammunition Factories	„	Dum-Dum and, Kirkee.

The following are the different arsenals and depôts :—

Northern Circle.		Southern Circle.	
Arsenals.	Depôts.	Arsenals.	Depôts.
Ferozepore. Rawalpindi. Fort William. Allahabad.	Agra. Dera Ismail Khan.	Bombay. Madras Quetta. Mhow. Rangoon.	Aden. Ahmedabad. Poona. Trimulgherry. Fort Dufferin.

The Army Remount Department.

The Army Remount Department, which is under a Director-General (an appointment which qualifies for the rank of Colonel), with 14 officers as Superintendents, and 8 Veterinary officers, controls the breeding and the supply of horses* for military purposes. The following are the remount depôts :—Saharanpur, Babugarh (or Hapur), Mona, Ahmednagar and Hosur with a young stock run at Sargoda. The Civil Veterinary Department controls horse, mule and donkey breeding outside the Punjab, Baluchistan, Sind, the Bombay, Deccan and part of the United Provinces, inside which areas lies the work of the Army Remount Department. The principal source of

*The Native Silahdar Cavalry arrange for the supply of their own horses.

supply of horses is at present Australia; Arabs are also imported; and likely young country-bred stock are bought and reared on runs. Mules for ordnance purposes are purchased locally, and mules for all purposes (to the extent that they cannot be purchased locally) are imported by the Army Remount Department. Mules for transport purposes are purchased locally by officers of the Supply and Transport Corps.

The Army Clothing Department.

The Army Clothing Department has factories at Madras, Calcutta and Fatehgarh, and is under a Director of Army Clothing with 5 officers as assistants. The greater part of the clothing required for the army in peace time and all the special clothing required for the Field Army is manufactured in, and supplied from, these factories.

The Military Accounts Department.

The Military Accounts Department under an Accountant-General (an appointment which qualifies for the rank of Colonel) is under the Military Finance Section of the Finance Department of the Government of India, in which the Accountant-General is *ex-officio* Deputy Secretary. It audits all Army accounts and compiles military expenditure. There are at present 4 Controllers of Military Accounts, of the Northern, Eastern and Western Commands and of the Secunderabad and Burma Divisions, respectively. There are 44 other officers as assistants. Officers are recruited from the Indian Army.

Ecclesiastical Establishment.

The Church of England Ecclesiastical Establishment in India consists of Bishops, Archdeacons (and Commissaries), and Senior, Junior and Probationary Chaplains. It is a civil department under the Home Department of the Government of India, and the incumbents are borne on four separate lists, namely, Bengal, Madras, Bombay and Rangoon. Chaplains, etc., for purely military purposes are detailed from among those on these lists. Presbyterian and Roman Catholic Chaplains are also entertained to a limited extent for military duty.

Grass and Dairy Farms.

Grass and Dairy Farms are formed, or being formed, in all of the larger cantonments in India, under the control of Generals Commanding Divisions. They supply grass to all Government animals and dairy produce to all military services.

Imperial Service Troops.

The Inspector-General of Imperial Service Troops, a Major-General of the Indian Army, has 11 Inspecting officers, a Deputy Assistant Adjutant-General for Musketry, an Inspector of Signalling, and 8 Assistant Inspecting officers, all of the Indian Army, to assist him in his work of superintendence of the training of the different Imperial Service corps. The cost of this inspecting staff is paid by the Indian Government, who bear no other part of the cost of the Imperial Service Troops; for these are absolutely under their own rulers, in whose territories they are recruited. Their armament and equipment is practically identical with that of our own Native army, to whom they approximate in efficiency.

The following table shows the various Corps of Imperial Service Troops: these are all of varying strength. The aggregate strength on the 1st April 1906 was 20,728.

NATIVE STATES.	Mountain Batteries.	Cavalry Corps	Camel Corps.	Mounted Infantry.	Sappers and Miners.	Infantry.	Transport Corps.	REMARKS.
Hyderabad	...	2	...	...	...	...	...	
Mysore ...	...	1	...	...	...	...	..	
Jodhpur ...	..	2	...	...	...	...	...	
Jeypur ...	...	...	...	...	...	...	1	
Bhartpur ...	...	...	...	...	...	...	1	
Bikanir ...	...	...	1	...	...	...	...	
Alwar ...	...	1	...	...	...	1	...	
Indore ...	..	...	...	1	...	...	...	
Bhopal ...	...	1	...	...	...	...	..	
Bhavnagar	...	1	...	...	...	...	...	
Junagadh ...		1	...	...	...	...	...	
Jamnagar ...	...	1	...	...	...	...	...	
Gwalior ...	...	3	...	...	...	2	1	
Kashmir ...	2	1	...	...	...	4	...	
Patiala ...	...	1	...	...	...	2	...	
Jhind ...	...	...	...	...	...	1	...	
Nabha ...	..	...	...	...	...	1	...	
Kapurthala	...	...	...	...	...	1	...	
Bahawalpur	...	...	1	..	...	1	...	
Faridkot ...	...	...	...	...	...	1	...	
Nahan ...	...	...	...	...	1	...	..	
Malerkotla...	...	...	...	...	1	...	...	
Total ...	2	15	2	1	2	14	3	

Volunteers.

Since the days of the Mutiny the Volunteers have had little opportunity of seeing active service. A Mounted Rifle company of the Rangoon Volunteers served in Upper Burma in 1885, a company of the Calcutta Volunteers took part in the Manipur Expedition of 1891, Lumsden's Horse (a corps raised from Indian Volunteers corps) took part in the South African War, and various corps have at different times been called out for military duty in aid of the civil power. The existence of Volunteers in India is especially necessary in view of the different nationalities by which we are surrounded, and their value would be evident in case of a general mobilization of the regular forces for operations across the frontier. In these circumstances the security of a large part of the European inhabitants in India would depend on the Volunteers, on whom we should also rely to a large extent to maintain the railway communications throughout the country.

All Europeans and Eurasians in India are eligible to become Volunteers. The advisability has been mooted more than once of making service in the Volunteers compulsory for all Government servants and also for all European and Eurasian residents, but the question has not been pressed: at present, all railway employés, who are eligible, have to serve in their Railway Volunteer corps; and in case of a general mobilization it appears probable that the greater part of the European and Eurasian residents would come forward voluntarily to enrol themselves as Volunteers. All Volunteer corps are under the orders of the General Officer Commanding the divisional area in which they are located. Junior officers are elected regimentally, but promotion to Captain and to ranks above Captain have

to be recommended by the Local Government. The Inspector-General of Volunteers, an officer of the rank of Major-General, is a regular officer serving under the Adjutant-General; he inspects all Volunteer corps throughout India, and generally looks after the interests of the force. Adjutants and Sergeant Instructors are detailed from the Regular Army to the different corps, as at Home.

There are 82 Volunteer corps in India, among whom are the Calcutta, Rangoon, Karachi and Aden Port Defence or Naval corps with Artillery and Submarine and Electric Engineers, 14 Light Horse or Mounted Rifle corps and 7 Garrison Artillery corps. Of the 32,156 Volunteers in India on 1st April 1906, 30,378 were "efficients." There is also a small Volunteer Reserve, formed in reserve companies, which numbers about 1,600.

Volunteers are armed with the Lee-Metford Magazine Rifle, and the various rifle meetings held in India and at Home testify to their proficiency with it.

Imperial Cadet Corps.

This corps, which was initiated by Lord Curzon, has its Head-Quarters at Dehra Dun, and gives a military education and training for a period of 2 to 3 years to Native noblemen. The numbers under training vary from 12 to 20, and a certain number receive a commission in the British Army at the end of the course. There are at present 4 officers holding such commissions. Two are in command of corps of Imperial Service Troops and two are on the staffs of Majors-General of Divisions. There is a British Commandant and a British Adjutant to the corps.

Frontier Militia.

Owing to the policy of withdrawing regular troops from across the frontier, the numbers of the Frontier Militia have recently been increased. During peace time they are under the orders of the Local Administrations (*i.e.*, the Agent to the Governor-General in Baluchistan or the North-West Frontier Province), but when on military duty where regular troops are also employed, they come under the orders of the Officer Commanding the troops. They are officered by 2 or 3 British officers per battalion, they are armed with Martini-Henry rifles, and they are equipped and trained on the same lines as the Native Army.

In the North-West Frontier Province there are:—The Khyber Rifles (2 battalions), the Kurram Militia (2 battalions), North Waziristan Militia, South Waziristan Militia, the Dir, Swat, Chitral, and Bhittani Levies and the Chitrali Scouts. In Baluchistan there is the Zhob Levy Corps (partly mounted) and the Mekran Levy Corps. They serve entirely in the district whose name their corps bears.

Military Police.

There are the following Military Police:—

BURMA.—12 battalions, commanded by British officers of the Indian Army.

ASSAM.—6 battalions, commanded by British officers of the Indian Army.

NORTH-WEST FRONTIER PROVINCE.—Samana Rifles and Border Military Police, commanded by Police officers.

PUNJAB.—Border Military Police at Dera Ghazi Khan.

They are armed with the Martini-Henry rifle, and are equipped and trained on the same lines as the Native Army. Their duty lies principally in holding various frontier posts.

Armies of Native States.

Nearly all the independent Native States, whose number is some 120, keep up bodies of armed retainers. The numbers of these forces vary, but they may be taken as aggregating approximately 90,000 to 100,000, of whom about three-quarters are infantry. They are of little military value, for their armament, discipline and training are inferior, except in Kashmir, Gwalior and Hyderabad. At the same time the *personnel* in the States of the Punjab and Rajputana is generally excellent. In certain circumstances these so-called armies might prove a menace to the internal peace of the country.

APPENDIX.

STRENGTH AND DISTRIBUTION OF THE ARMY.

The following table shews the present distribution by Divisions and Independent Brigades of the combatant units of the regular army in India serving under the orders of the Commander-in-Chief. It is undergoing yearly alteration as the redistribution scheme progresses:

For table see next page.

TABLE SHEWING STRENGTH AND DISTRIBUTION OF THE ARMY.

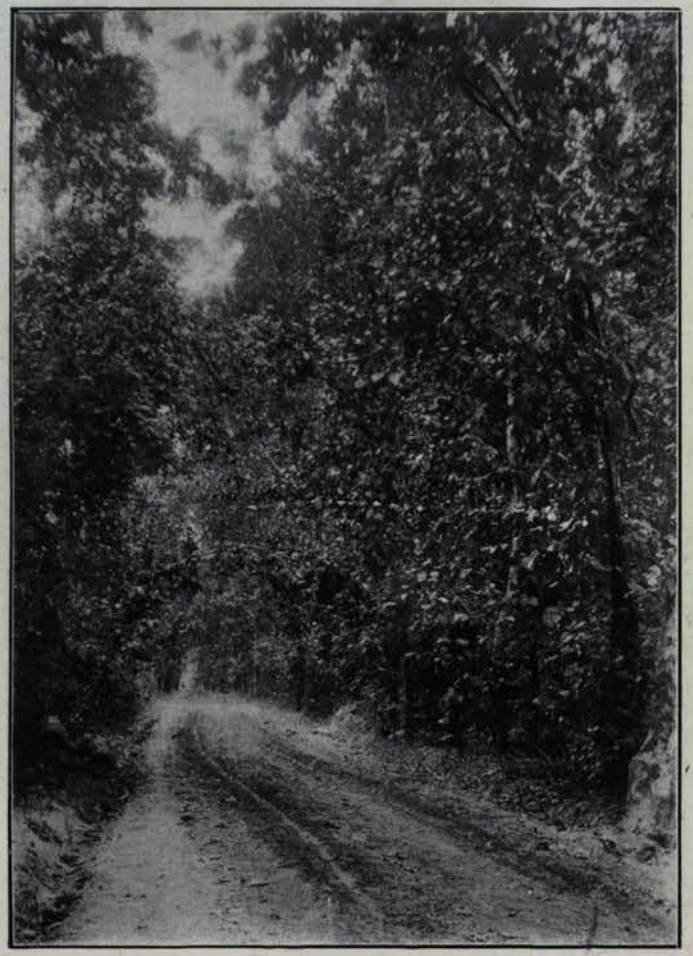
DIVISIONS OR INDEPENDENT BRIGADES.	UNITS.											
	R.H.A. Batteries.	R.F.A. Batteries.	Ammunition Cols. (R.H.A. & R.F.A.)	Mountain Battrs., R.G.A.	Companies (Heavy), R.G.A.	Companies, R.G.A.	Batteries, Native Artillery.	Sapper and Miner and Railway Cos.	British Cavalry Regiments.	Native Cavalry Regiments.	British Infantry Battalions.	Native Infantry Battalions.
1st (Peshawar) Division	...	1	...	...	...	...	1	1	...	4	3	11
2nd (Rawalpindi) Division ...	2	3	3	3	2	2	4	5	2	4	4	11
3rd (Lahore) Division	2	5	1	2	1	1	...	...	1	5	7	14
Kohat Brigade	...	...	...	...	..	...	2	...	...	1	...	4
Bannu Brigade	...	...	...	...	...	...	1	...	...	1	...	2
Derajat Brigade	...	...	...	...	...	...	1	...	...	1	...	3
4th (Quetta) Division	...	3	1	3	...	3	...	2	...	3	3	9
5th (Mhow) Division	2	9	2	...	2	...	...	...	1	6½	5	21
6th (Poona) Division	...	6	1	...	...	3	...	6	...	3	5	12
Aden Brigade	...	...	...	...	...	3	...	1	...	½	1	2
7th (Meerut) Division	2	4	2	...	1	4	...	6	2	4	8	14
8th (Lucknow) Division	1	6	...	...	...	3	...	...	1	4	7	10
9th (Secunderabad) Division ...	2	8	3	...	...	1	...	7	2	3	5	13
Burma Division	...	...	...	...	...	2	2	1	...	...	4	7
In China and the Colonies ...	...	...	...	...	...	...	...	...	...	...	...	7
TOTAL ...	11	45	13	8	6	22	11	29	9	39½	52	140

The total of the above units in numbers is approximately as follows :—

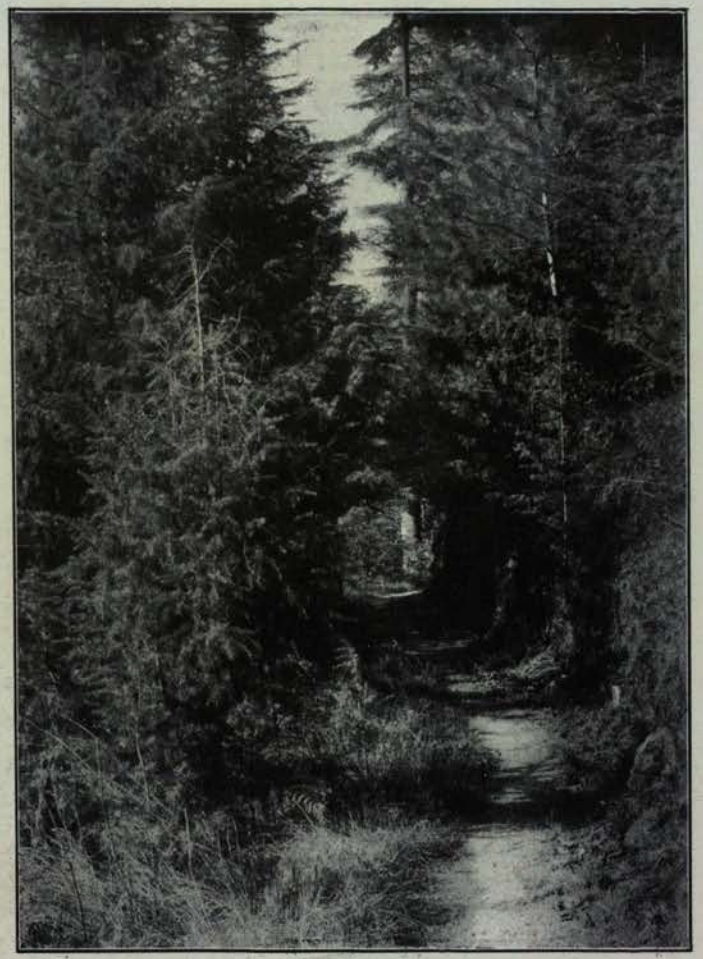
4,734 British officers.
70,689 British warrant and non-commissioned officers and men.
154,485 Native officers, non-commissioned officers and men.
40,584 Horses.
2,462 Ordnance mules.
468 Guns.

In addition to the above, there are the following reserve and auxiliary forces :—

Indian Army Reserve	.. 28,236
Bodyguards and Escorts	.. 357
Military Police, Militia and Levies	.. 34,653
Imperial Service Troops	.. 20,728
Volunteers	.. 32,156



Sâl Forest under Fire protection.



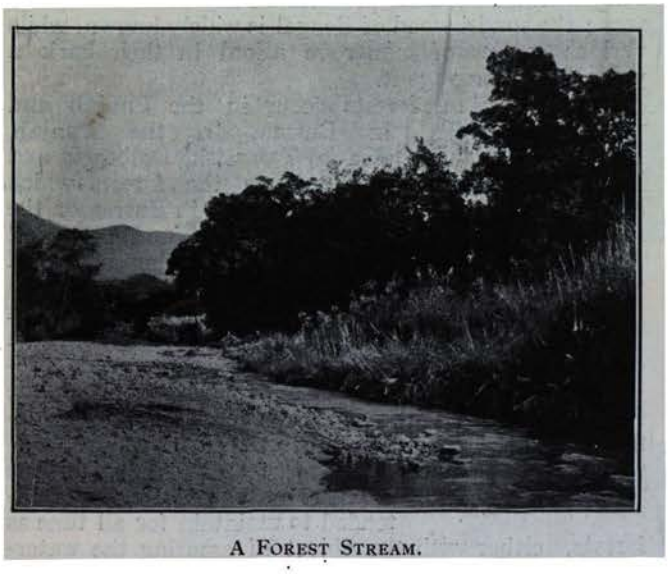
Mixed Forest of Deodar and Blue Pine, about 6,000 feet elevation.

The

Forest Department of India.

Introduction.

EVEN at the present stage of progress in India the extent and importance of its forests are far from fully recognized. Statistics shew that at the close of 1903-4



A FOREST STREAM.

there were 232,701 square miles of State forest under the charge of the Forest Department, while the forest area owned by Native States or private individuals, probably extended over an additional area of some 120,000 square miles, so that roughly speaking about one-fifth of the Indian Empire is occupied by forest vegetation. It must not, however, be supposed that the whole of this vast area is covered with tree growths; there are indeed tracts of many thousands of miles which yield valuable timber, but in others only scrub jungle grows and in others again the chief yield may consist of grass and of other minor forest produce. But diversified as these forests may be, their existence over large extents of the earth's surface affect a country in two ways, first by their general climate and physical effects, secondly by the economic advantages they confer, and the value of both depends largely on the agricultural and commercial development of the country which possesses them. The hotter and drier a country, the more important becomes the action of forests in equalizing the air and soil temperature, and increasing the relative humidity of the air, in absorbing and retaining the moisture in the soil, and in protecting its surface from erosion by water; while at the same time not only is timber one of the few commodities which is increasing in value all over the world, but the greater the prosperity of a country, the greater the demand for forest produce, and the higher the price it commands. In India where agriculture is the main industry, the value of the climatic and physical effects of forests can hardly be overrated, while their economic importance is proved by the fact that the supply of cheap or free timber and fuel has hitherto been adequate for the requirements of the people, while permitting of the export of the more valuable woods; thereby bringing wealth both to the Government Exchequer and to the private individual.

But the economic value of the forests, great as this may be, dwindles into insignificance when compared with the value of their physical effects. The Englishman living in his island home in a moist atmosphere is secure from the effects of drought and uninterested in the investigations which have been steadily proceeding in continental countries to ascertain the influence of forests in storing up the aqueous precipitations and distributing them over the country throughout the year. He is, as a rule, unaware of the important facts that have been established in this regard, and which have been accepted in practice by the Governments of those countries not so favourably situated as his own. Thus it is explained that in India also the importance of this subject has frequently been overlooked, so that at this time complaints are not uncommon of the irregularity of the water-supply, of local scarcity of water, and even of the silting up of once navigable rivers, while disastrous floods become more and more common.

India is blessed with seasonal rainfall, which is only to a comparatively slight degree dependent on the configuration of the ground or in its surface covering, but the importance of retaining the available moisture for use throughout the dry months of the year is paramount; and the fact remains that forest-clad areas are capable of storing up the aqueous deposits and of giving off their moisture gradually, while on bare denuded slopes the falling rain passes off rapidly into the main rivers, causing harm by erosion and by floods, instead of being utilized for the beneficial irrigation of the arable lands. Thus may ignorance of facts, or failure to profit by knowledge, turn a blessing into a curse, and the destruction of nature's reservoirs necessitate the costly construction of others, artificial, but infinitely less effective.

The Classification of Indian Forests.

The forests of the Indian Empire are situated between the 8th and 35th degree of north latitude, and flourish from sea-level up to an elevation of 12,000 ft. and even higher; they lie between the 62nd and 102nd degrees of east longitude, and within these limits 4,750 woody plants are recorded, of which 2,513 are trees, 1,430 are shrubs, and 807 are climbers, without taking into consideration other forms of forest vegetation, such as grasses, etc., which may yield valuable commercial materials. The classification of forest growth by botanical zones, however correct and interesting this may be, is hardly necessary in an article which aims at placing before the reader an accurate general impression of the forests. Some trees, it is true, are characteristic of Northern or Southern India, but others are richly distributed over the whole country, so that latitude alone will not suffice as a basis for the classification of the forest vegetation. Of other influences the rainfall is perhaps the most important, for its amount and distribution, regulated by the physical features of the locality as well as by its geographical position, decide to a great extent the character of the forest growth. It is simpler, therefore, to divide the country into zones as follows: the wet with over 75″ rainfall, the moist with over 50″, the intermediate with over 30″, and the dry with less than that amount. Within these zones the forests may be classified as Evergreen, Deciduous, and Dry, each with a typical vegetation, which, however, is seldom clearly defined by area, but merges insensibly into the neighbouring class; while where elevation tides and inundations have a still more marked effect than atmospheric precipitations, Alpine. Tidal and Riparian forests complete a sufficiently distinctive list.

(a) The Evergreen Forests.

The evergreen forests are found chiefly in the West Coast of India, in Burma, in the Andamans, and also in the sub-Himalayan tracts to the East. Characteristic of these forests are Terminalia, Cedrela, Dipterocarpus, Autocarpus, Calophyllum and other large trees, while teak, iron-wood, padouk and other valuable species often of very superior growth, occur sparsely scattered through the evergreen forests, tending in some cases to prove the invading power of the evergreen upon the deciduous species.

(b) The Deciduous Forests.

The deciduous forests are the most valuable in India. They extend from the Himalayas throughout the Peninsula wherever the rainfall is sufficient, and occur in Burma where they comprise the extensive teak forests in that Province, yielding the major portion of the forest revenue of India. Next in importance to the teak comes the "Sâl" which is found in the United Provinces, in Central India, and extending through Bengal, crosses the Brahmaputra River into Assam. The timber is entirely consumed in the country. Other valuable woods in the deciduous forests are the iron-wood, red sanders, rose-wood and ebony, while Terminalia, Anogeissus, Acacia, Sterculia and other important genera are well represented.

(c) The Dry Forests.

The dry forests occur chiefly in the Punjab and Central India. Their produce is of local importance, consisting of Acacia, Sterculia, Butea, Albizzia, Melia, Dalbergia and others, while in Baluchistan Juniperus, Pistacia and Olea, represent the chief forest growths.

(d) The Alpine Forests.

The alpine forests comprise the great coniferous forests of India, of which in the West the most important tree is the Deodar or Cedar of Lebanon. Here also are found three pines, two silver firs, the spruce, cypress and yew, while oaks, maples, birch, holly, elder, box, horse-chesnut and other trees of the same genera as the chief trees of Europe are frequent. In the Eastern Himalayas are found spruce, fir, larch, yew, juniper, and both in the East and the West, the vegetation as it reaches lower elevations gradually passes into the deciduous or evergreen forests at the base of the hills.

(e) The Tidal Forests.

The tidal forests are found in the Northern Coast districts of Madras, on the coast of Burma and in the Sunderbans. They contain valuable produce chiefly of local importance; the sundri wood of Bengal is widely known, while various species of mangrove afford in their bark a valuable tanning agent.

(f) The Riparian Forests.

The riparian forests occur in the Punjab and in Burma. In the Punjab, Acacia, Tamarisk, Dalbergia and Poplar form the forests which spring from the sandy riversides, while in Burma on the muddy soil which borders the rivers and estuaries, Anogeissus, Mangifera, Eugenia and Elœocarpus of various species are found.

The organization of Indian Forests.

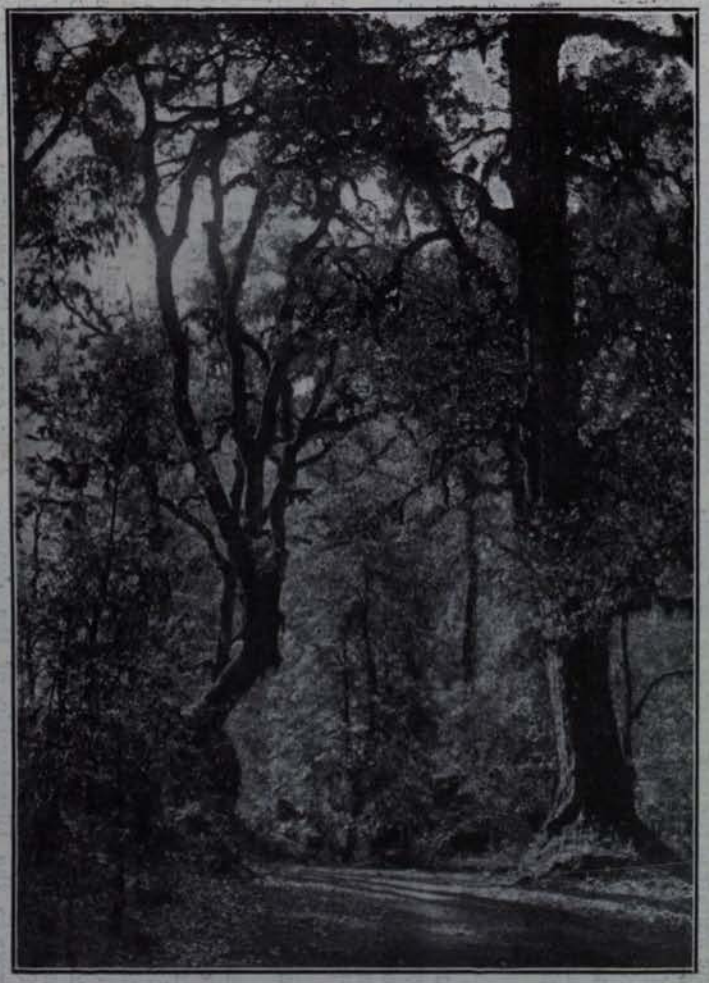
For the purpose of organization and management the State forests of British India are classified as, reserved, protected, and unclassed or public forest land, the legal status of each class being defined in Forest Law after a prescribed procedure.

(a) Reserves.

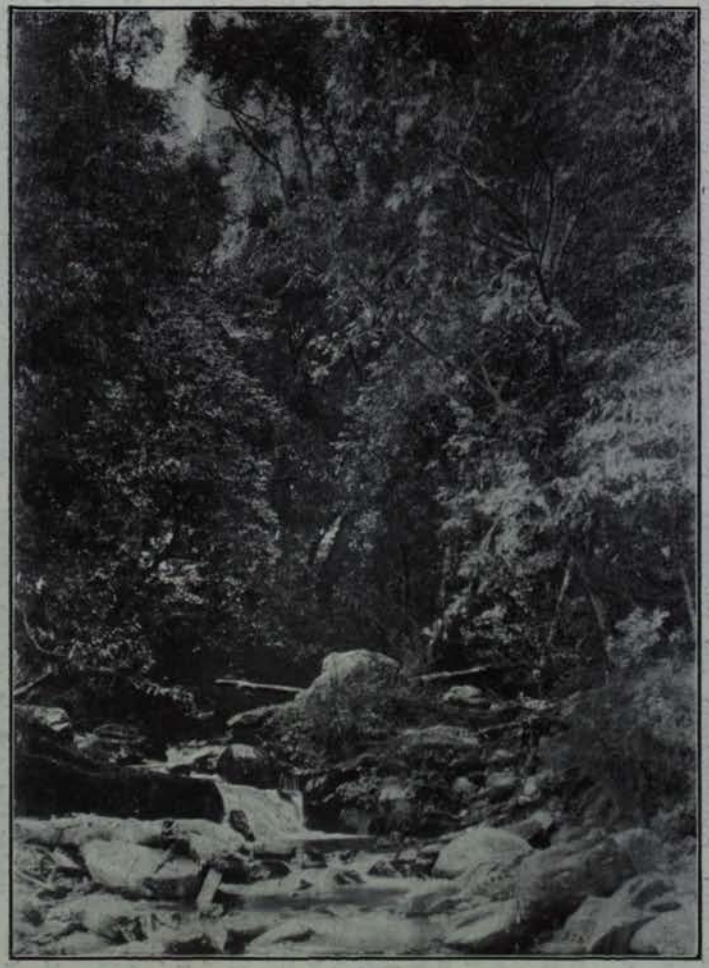
The reserves comprise those areas which, in the interests of the State, it is intended to maintain for all time as forests, either with the object of assuring the water-supply of a district by protecting the catchment area of its watercourses, of affording a constant supply of produce to its inhabitants, or for other reasons. The process of reservation is marked by a careful enquiry, held by a specially appointed officer, into the rights of the surrounding population, and these, if existent, are either recorded permanently or extinguished by purchase or exchange. Thus in some cases the recorded rights in a reserve may be so numerous as to absorb the whole of its outturn, leaving the State to defray the expenditure on its maintenance with the object of reaping the indirect advantages conferred by the preservation of the forest. The area included in reserved forests amounted in 1903-4 to 91,567 squaremiles.

(b) Protected Forests.

Protected forests are either those which it is intended in the near future to bring under the more stringent law applied to reserves, or of which the public importance is not so great as to justify this procedure. The enquiry into rights is here not so detailed, and as a rule it is considered sufficient to protect the more valuable species from maltreatment or annihilation by the surrounding population. The area comprised in protected forests amounted in 1903-4 to 9,865 square miles.



An Oak Forest, about 8,000 feet elevation.



A well-wooded Catchment Basin.

(c) Public Forest Lands.

Lastly come into consideration the unclassed forests, or public forest lands, which contain produce in excess of the requirements of the people, and which are at present not so accessible as to permit of very special protection. These areas are naturally largest in Provinces, such as Assam and Burma, where facilities for export have not been provided. The area of public forest lands was in 1903-4, 131,269 square miles.

All these types of forests are liable to alteration in classification according to the progress made in the development of the country. In the Central Provinces, for example, the area of reserves is being gradually reduced to make room for cultivation; in Burma, on the other hand, the area of reserves is constantly increased by excision from public forest lands, while the tendency in most Provinces is to transform protected into reserved forests as prosperity by increasing, raises the demand for, and value of, forest produce. In no case, however, is any classification of forest land permitted without the fullest enquiry into the rights of the people, and these rights may, moreover, be supplemented by the Local Government by the grant of privileges in free timber, grazing or other produce.

The Forest Policy of the Government.

When forests have been classified and brought under the Forest Law, they come under the charge of the officers of the department, who are responsible for their future administration in accordance with the declared policy of Government. This policy may be set forth in a few words, namely, that the State forests are to be managed, first, with a view to the welfare of the country as a whole; second, with due regard to the welfare of the inhabitants in their vicinity, and throughout with the object of full utilization of all the products which the area can supply. But in order to effectively carry out this policy a fully equipped service is necessary, and the origin and constitution of this service must now be explained.

Constitution of the Forest Service.

It was at the commencement of the 19th century that the importance of the teak forests of Malabar first attracted the attention of the British Government, and that their denudation gave rise to fears that there might occur a deficiency in material for the construction of fleets or of public buildings; but though teak was created a Government monopoly and desultory efforts were made to protect the forests, it was not till 1847 that Drs. Cleghorn and Watson were appointed Conservators of Forests in Madras and Bombay. Five years later the Province of Pegu was annexed and the value of the teak forests at once attracted attention, resulting in the appointment of Dr. (now Sir Dietrich) Brandis as Conservator, and the creation of a new State Department. That department was of necessity first recruited by officers drawn from various other services, whose tastes led them to adopt a forest life; but some years later professional knowledge was provided by the appointment of two officers from Germany, Drs. Shlich and Ribbentrop, both of whom rose to the Directorship of the department, while the former has for 20 years supervised, first at Coopers Hill and then at Oxford, the technical education of the candidates appointed by the Secretary of State to the Indian Forest Service.

As now constituted, that service consists of three branches, the Imperial recruited in England after two years' training at Oxford, followed by a year spent in the continental forests; the Provincial recruited in India, and whose members for the most part have attended the curriculum of the Imperial Forest College at Dehra Dun, where a two years' course is given; and the Subordinate Executive Establishment manned by local officers. The members of the two latter services are not as a rule transferred outside the Province of their recruitment. Imperial Officers are, however, liable for service throughout the Indian Empire.

Subject to the general policy which has been already set forth, forest administration rests with the Local Governments. There is an Inspector-General who advises the Government of India in forest matters, and who tours through the Provincial forests in order to become acquainted with local conditions. There are Chief Conservators in Provinces where more than two forest circles exist, and Conservators who form the link between the Controlling Staff and the Provincial Governments. Below them are Deputy and Assistant Conservators, who hold territorial charges coincident with Revenue Districts. Members of the Provincial Service are either in charge of minor divisions or employed on various special works, while the Subordinate Executive Establishment is distributed throughout the forest lists on protective and other work.

The staff of the department at this time may be held to consist of an Inspector-General and 20 administrative officers, with 164 members of the Controlling Staff, all in the Imperial Branch of the Service. The Provincial Service consists of 128 officers, while the Subordinate Executive Staff shows a strength of 9,800 officials, which is augmented by a temporary establishment of about one-half that strength.

The salaries drawn by these officers are roughly as follows: in the Subordinate Executive Establishment from Rs. 7 to 150 per month; in the Provincial Service from Rs. 200 to Rs. 600 per month, and in the Imperial Service from Rs. 350 to Rs. 2,500 per month.

The duties of the Forest Officer.

In India agriculture is so bound up with forestry that a most intimate connection must exist between Forest and Revenue officials. The Divisional Forest Officer is thus the Assistant to the Collector, while the Conservator and Commissioner consult on all forest matters affecting the welfare of the people. With regard to the forests in his charge, the first duty of the Forest Officer is to bring the area into full bearing of that product for which there is a local demand or an outside market, and to do this certain steps have to be taken to secure continuity of working over a prolonged period.

(a) Demarcation and survey.

When Forest Settlement is complete, it must be followed by permanent demarcation and detailed survey; next comes the decision as to the produce which the area is to yield, which may be timber for export, small building material or fuel for local industries, or even the provision of grazing for the cattle of the rightholders; one or all of these may be demanded from the same area.

The kind of produce and the method of its cultivation are prescribed in a working plan which is sanctioned by the Government of India and may not be altered without their approval, and with this plan as a guide to the silvicultural treatment of his forests, the Divisional Officer proceeds to the protection of the area and to the exploitation and disposal of its produce.

(b) Working plans.

The protection of the forest against fire is one of his most arduous and important duties, for in the deciduous and alpine forests of India, the continuance of the forest by means of natural regeneration as well as the growth of sound timber is impossible unless this is successfully carried out. In the moist and evergreen forests protection is not so necessary, though even here the exclusion of fires has a beneficial effect in certain conditions. There were in 1903-04, 38,000 square miles of State reserves under special protection, involving the State in an expenditure of from Rs. 5 to 40 per square mile in the preparation of fire lines and in establishment. The percentage of success varies much with the season. Winter rain followed by an early monsoon will render the operations perhaps entirely successful, but in more adverse conditions there may be serious losses. Incendiarism is rare, and the good will of the people is an important factor in successful operations. In the year 1903-04 some 5,500 cases of forest fires occurred, and about 3,000 square miles of forest were burnt.

(c) Fire Conservancy.

Protection against man and cattle is an easier task, and depends to a great extent on the strength and spirit of the subordinate staff. It is now universally admitted that forest conservancy in India depends greatly on the attitude of the surrounding population, and endeavours are always made to interest the people in the forests by the offer of remunerative work and by rewarding them for any aid they may afford, by due consideration of their welfare, and by generosity in time of stress or need. In spite of sympathetic treatment, however, forest offences will occur and cattle trespass will continue. In 1903-04 the number of the former was recorded at 51,000, while as 13 million head of cattle grazed in the State forests during the year, it is not surprising that trespass was frequent.

(d) Protection against Man and Cattle.

The exploitation of the forest will next occupy the attention of the Forest Officer. It was in the past, and still is to some extent in the present, the duty of the Department to create a market for its products and convey them thereto. But that necessity is happily fast disappearing for the strength of the service has never been based on an assumption that lumbering was a part of its duties, and the withdrawal of officers from work of a more professional nature has often resulted in hindering the improvement of the forest capital. At the present time the system prevails of selling standing timber and leasing the minor forest produce or issuing passes for its collection, while grazing fees are either collected by assessment on a community or, in the case of migratory herds, by payment on entering the forest.

(e) Exploitation.

Remunerative forest management in India is rarely possible without a considerable outlay in rendering the forests accessible. Thirty years ago, in the absence of railways, roads, tramways and slides, water carriage was practically the only means of handling bulky forest produce without excessive expenditure. Since then, however, very large sums have been spent on communications, with the result that carriage has become easier and cheaper, while it now pays to remove much material that was formerly neglected. At the present time merchants in forest produce often prefer railway carriage even where transit by water is to hand, as the extra cost is more than covered by the rapidity with which the produce reaches the market; while in the hills, forest areas which only a few years ago were classified as inaccessible are now yielding their harvest by means of timber shoots, wet slides, and sledge roads. The Forest Officer is responsible therefore for opening out his forests by suitable communications with established trade routes, the more so that it has been proved by experience that this is one of the most remunerative forms of expenditure. During the year 1903-04 the cost of the upkeep and construction of roads and bridges amounted to Rs. 1,84,000.

Communications and Buildings.

The provision of suitable shelter for the Forest Staff is also a matter of primary importance. The Forest Officer has been in the past, and still is in some backward Provinces, the pioneer of civilization; he is throughout his service exposed to inconveniences and dangers which result in a high mortality rate. The improvement of communications brings him more into touch with the outside world and its amenities, but unless protected against climatic influences, he soon loses health and vigor. During the past few years greater activity has been shown in providing for the proper accommodation of officers of all branches of the service, but very much still remains to be done to obviate unnecessary exposure to the summer heat or autumn rain. The expenditure on upkeep and construction of buildings by the Forest Department in 1903-04 was Rs. 4,69,000.

The popular idea of the life of a Forest Officer in India is that he is engaged in sowing and planting trees. It has been shown that his work has a wider scope, that it may influence the welfare of a country, and that whole communities may be dependent for their comfort upon the success of his management. The theory of Indian forestry is similar to that recognized in Western countries, namely, that the forest stock represents the capital, and its yield the interest on that capital. When the forests of India came under the control of the British Government, it was speedily found that this theory, if known, had not been practised, but that the forest capital had been encroached upon to such an extent that the yearly interest had diminished or disappeared. During the last 40 years the work of the Department has consisted in the endeavour to restore the forests to a more normal condition, and to build up the forest capital, so that a full and permanent supply of produce might be available for the public. There is, indeed, good

The Regeneration of the Forest.

reason to believe that in many parts of India the entire denudation of hills and other lands has resulted in completely altering those conditions under which, in former times, the inhabitants lived in comfort; and in such localities extensive works of afforestation by means of sowings and plantings would without doubt prove of the greatest benefit: but in India forestry has not yet advanced beyond the maintenance of existing forests, and here happily conditions can, as a rule, be regulated, so as to induce the natural regeneration of a young crop in order to replace the mature trees which are systematically removed.

To bring the ruined forests of India into a condition where natural reproduction is assured, and where the soil is covered by a full crop of trees of all ages, has been no easy task, nor indeed is this task complete at the present time. To remove the hollow and unsound stems discarded as valueless when the forests were being ravaged in former times, to suppress the inferior species, to control the luxuriance of the growth of climbers and underwood, and to ensure the germination of the fallen seed by keeping out fires and cattle has been the work of the past, which will be amply repaid in the future by a fuller harvest of forest produce and a largely increased State revenue. The preliminary treatment to which the forests are subjected in order to bring them into a normal condition is that of improvement fellings, a provisional operation with the object of favouring the growth of the principal species by the removal of those stems which hinder its progress. The result of carrying out these fellings over large areas is often to flood the market with a large amount of inferior material, much of which is useless for any purpose. But these fellings also yield railway sleepers and small scantlings, so that though in some cases they may be costly, in others they produce a considerable revenue.

Following on the completion of the improvement fellings, whose sequence should have been arranged so that as far as possible the area under the various age classes should be approximately equal, a regular system of treatment is prescribed. In the deciduous forests, the selection, or the coppice method, is generally adopted according to whether large or small timber is in demand. The selection and removal of mature trees scattered throughout the felling area causes but slight interference with the forest canopy, insufficient to stimulate a rank growth of grass which would choke the seedlings, but sufficient to afford light for the germination of the seed. Where fuel is in demand, the system of coppice is adopted, the crop of the future growing from the parent stools, and in order to gradually renew the forest stock "standards," or isolated stems are left scattered throughout the felling areas, so that their seed may produce new stems to replace the coppice stools which ultimately may become exhausted.

In the coniferous forests a system of regeneration fellings is often practised, whereby the standing crop is renewed by a series of successive fellings spread over a considerable period, the new growth replacing the mature trees as these are gradually removed.

Variations of these methods may be applied to the conditions of given localities, but the principle remains the same, that regeneration whether by seed or by stool shoots should be left to nature and aided, but not performed, by the Forest Officer.

The Yield of the Forests.

At the present time the yield of the State forests, though steadily increasing, forms only a small portion of what the forests should give were they in a normal condition and in full bearing. The maltreatment of centuries cannot be remedied in a few years, but when the timber trees which sprang from seed in the infancy of the Department shall have matured, the full value of the State forests will be better appreciated. Meanwhile, variations in the outturn of the forest due to local conditions are not infrequent. A failure of the monsoon rains at once influences the yield of forest produce, the floating streams run dry, and the demand for timber ceases when there is scarcity in the land.

The yield of the Indian forests is classified as major, including timber and fuel, and minor, including all other produce, save bamboos; and the average outturn of the last two years has amounted to 239,408,483 c.ft. of timber and fuel, Rs. 45,45,231 worth of minor produce, and 260,843,649 bamboos, most of which was consumed locally.

Of the timbers the most valuable are teak, sal, deodar, sissoo, ebony and rosewood, blackwood, cutch, sandal, babul, red sanders, iron-wood and padouk, but there are many others which have only to be known to be appreciated, though in some cases the supply is too limited to rouse the interest of the home market. The exports of forest produce from India during the year 1903-04 were, however, of great importance. Teak to the value of 91½ lakhs of rupees, sandal and other ornamental woods estimated at 12 lakhs, myrabolams to the amount of 42 lakhs, cutch and gambier nearly 20 lakhs worth, and caoutchouc 3½ lakhs worth were registered as having been shipped abroad, while 272 lakhs worth of lac were also exported. Not all of these valuable products came from the State forests; for instance, Mysore possesses the largest area under sandal, while lac, though originally a forest product, is largely cultivated in private estates and on field crops where protection and supervision are more easy than on trees scattered throughout remote jungles; the value of, and demand for, this product would appear to justify further efforts being made for the wider propagation of the lac insect in State forests.

Free Grants of Forest Produce.

It has before been remarked that in the constitution of State forests, the greatest care is taken to prevent any infringement of the vested rights of the people, and that Provincial Governments are at liberty to grant those resident in the vicinity of the forests privileges as regards the enjoyment of their products. But in spite of this liberal policy the introduction of restrictions on the liberty of the individual will always at first be resented until custom has made the new conditions better known. The opposition to the introduction of forest conservancy in India, which was at first intense, is still shown, though in a much modified form, and is now perhaps due more to the misdemeanours of the lower subordinates than to any other cause. The remedy is to increase supervision over the executive staff, though considering the vast extent of country to be controlled, this will always be a

difficult matter. During the year 1903-04 four million c. ft. of timber and 53½ million c. ft. of fuel, together with 13½ million bamboos and 11½ lakhs of rupees worth of minor forest produce, were distributed to right-holders and privileged persons, and in addition very valuable concessions were made for works of public utility, such as bridges, religious buildings, schools, rest-houses, etc., as well as for rebuilding villages which had been destroyed by fire. There is reason to hope that after the lapse of comparatively few years, at least the direct advantages of forest conservancy will be apparent to the people, for the destruction of forests proceeds with marvellous rapidity, and in many cases the coming generation would not have benefited by their present proximity to the forests, had not the Government taken the necessary steps to maintain the tree growth.

Forest Grazing.

The question of grazing has for long been in India of great importance, and the restrictions thereon necessary for the maintenance of the forest have perhaps been amongst the most opposed and criticised of the actions of the Forest Department.

In those districts which possess no forest lands the cattle are stall fed, are not kept in excess of requirements, and are as a rule somewhat carefully bred. It is different in other localities where large areas of forest land are available. Here, the peasantry maintain large herds of forest-grazed cattle which are augmented by migratory herds whose owners have no interest either in the forest or in the land. Such cattle are inferior in every respect, and die by thousands in time of drought, yet sustenance must, if possible, be provided for them, and no entirely prohibitory tax can be imposed on their grazing. More stringent rules are enforced in the case of sheep and goats than in that of horned cattle, but even so, immense damage is done from the snow level to the sea by the intrusion of cattle which can hardly be said to be necessary to the domestic welfare of the people or even of economic value to the country. Only 16 per cent of the large area of State forests was in 1903-04 closed entirely to grazing, leaving 195,000 square miles open for this purpose, though of this area some 24,000 square miles were closed to sheep and goats; it cannot therefore be asserted that the restrictions imposed by Government in this direction were so excessive as to unduly interfere with the traditions of the people.

Financial Results.

The financial results of Indian forest management afford a popular method of estimating the importance of the forests, but, as before pointed out, the indirect benefits they confer cannot be gauged by the cash revenues they yield. The increase, however, in these revenues has been remarkable, and is all the more welcome, in that means are thereby afforded by judicious expenditure for the improvement of the forest capital and for an increased outturn. The average revenue and surplus of the last 30 years is set forth in the statement below in thousands of rupees:—

	Gross Revenue.	Surplus.
1873-4 to 1882-3 ...	6,723	224
1882-3 to 1892-3 ...	15,186	6,925
1892-3 to 1902-3 ...	19,023	8,180
1902-3	22,217	10,050

It will be observed that the proportion of gross revenue to expenditure varies between 66 and 55 per cent and has remained at about the latter figure for some time.

The expansion of outturn and revenue in the future must be dependent on successful scientific management, for the preparatory operations for the improvement of the forest are, over large areas, within measurable distance of completion, and it is certain that the results of future working will far surpass those of the past.

Plantations and Experiments.

With a large area under management and a comparatively small staff, the work of the Forest Department must chiefly be confined to the tending of the natural forests, but arboriculture and plantations have not been entirely neglected. For many years "taungya" plantations have been extended in Burma, where there are now nearly 100 square miles under teak and cutch. This system of cultivation where the seeds of forest trees are sown with field crops in jungle clearings has been successful to a certain extent, but the work of keeping the plantations clear of undergrowth and thinning them, is sometimes beyond the powers of the local staff and of the scanty labour supply of the country. In Madras, at Nilambur, teak plantations have, on the other hand, proved to be a remunerative investment.

Experiments with exotic trees are being constantly carried out, but, with the exception perhaps of the eucalyptus, the results have not influenced the forest wealth of the country. On the other hand, the distribution to other countries of the seed of Indian forest trees is largely increasing. In Africa the deodar has been found to flourish in the Transvaal, teak and bamboo succeeds on the East Coast, while Cape Colony absorbs as much seed of the more valuable species as can be supplied. There are also standing indents for large quantities of bamboo seed which is available only at long intervals, but which it is hoped may, in successful plantations later on, influence the economic wealth of some of our Colonies.

With regard to rubber plantations the Department has had, as in many other instances, to assume the risk of proving that a new industry may be remunerative. The Ficus Elastica plantations of Assam and those under Hœvea, in Burma, are now coming into bearing and have proved at least suitability of soil and climate for these species. Their commercial success also is proved by the expression of disapprobation of the policy of a Government Department in conducting commercial undertakings and by offer of purchase, the critics being unmindful of the necessity and expense of experimental work which has been the means of creating a new and important industry in India.

Besides these extensive plantations and experiments, many forest gardens are kept up whence distribution of young trees free or at a nominal price proceeds. As an example, the gardens at Chaubattia may be mentioned, which have been the means of the introduction of the best varieties of English fruits into the Himalayas and from which eucalyptus and indigenous forest trees are distributed.

It has been mentioned that the work of the Forest Department in India has not yet extended to the afforestation of large areas, but this important work cannot be much longer delayed, and indeed has in some provinces already commenced. The scarcity of fuel in the Punjab, caused by the success of the large colonization schemes, is necessitating the creation of extensive irrigated plantations, while the high price of fuel in the vicinity of important European settlements, both in the hills and plains, points to the advisability of planting quick-growing species in a systematic manner, in order to remove this inconvenience. In a suitable climate with a sufficient rainfall, or where irrigation is available, the value of eucalyptus and wattle as fuel cannot be overlooked.

Education and Research.

It has before been mentioned that the technical education of the officers of the Imperial Branch of the Forest Service is now carried out at Oxford, and that of the other branches of the Service at Dehra Dun. The Forest School at Dehra Dun, which has been in existence for some 25 years, undertook the training of candidates for the Subordinate Executive Staff, whose members were eligible for promotion into the Provincial Service. But the progress of the Department and the increased demands on the professional Forest Officer were prohibitive to a continuance of this system. The school has now been raised to the status of a college, and a Research Institute has been created with a view to the study of scientific and economic problems, on the solution of which future progress must to a great extent depend. The College, when equipped, will receive forest students from all parts of India, and candidates from tropical colonies will probably utilize it to a greater extent than formerly, for with the revival of forestry in almost every country there should be no falling off in the acceptance of a free technical education of the highest order which is now offered by the Government of India.

The members of the Research Institute will also be fully employed in investigations which have been too long postponed. The richer the forest and the less the admixture of inferior species, the greater the danger to which it is exposed from insect and fungoid pests, the intenser its treatment and the more detailed the knowledge necessary to maintain it in a healthy condition. So that as progress is made in the organization of the forest crop with a view to deriving the greatest possible benefit from the forest areas, the greater becomes the need of scientific research and of its application to practical forestry.

The Forests of Native States.

The influence of the forest policy of the Government of India has been effective in attracting the attention of the rulers of Native States to the importance and value of their forests, and this is not extraordinary when they have seen instances where their forest revenues have increased under the supervision of a deputed officer of the Forest Department by ten times within as many years, so that now in some of the smaller States the forests afford the chief revenue of the country. Cash payments cannot be overlooked by the most unobservant, but the indirect value of the forests has now also been recognized by the more enlightened of the Native Princes, and this is a point of the utmost importance to the interests of the Indian Empire. The catchment areas of the streams which go to make up the important rivers of Upper India lie within native territory, and the same is the case, though pehaps in a less marked degree, in Central and Southern India. If these catchment areas were denuded of forest, if the hill slopes were laid bare by injudicious fellings, the great irrigation works of the Empire would at once suffer from an inadequate supply of water at some seasons and from devastating floods at others. The value of timber has risen and must continue to rise with greater demand and improved communications, and the temptation to realize the forest capital by the individual must be always present. An inculcation of the elementary principles of the influence of forests on the water-supply is therefore the first step towards ensuring that those influences shall not be slighted in the future.

(*a*) The Forests of Jammu and Kashmir.

The forests of Kashmir extend over a large tract of country from about 14,000 feet elevation to the plains of the Punjab; alpine, deciduous and dry forest being represented. The reserved forest area was, in 1903-04, about 2,650 square miles, and they yielded a net revenue of nearly 8 lakhs of rupees. The Conservator is an officer deputed from the Imperial Forest Staff, assisted by deputed officers from the Indian Provincial Forest and Revenue Services and by a locally recruited staff. The forests are managed on the Indian system, and considerable progress has been made in their organization. They are of particular interest to the British administration, as they clothe the catchment areas of the Indus, Jhelam, and Chenab Rivers.

(*b*) The Forests of the Hill States of the Punjab.

These forests contain valuable timber of deodar and pine, and are under the supervision of the local forest authorities who, while avoiding unnecessary interference, see that the forests are maintained and improved, the revenue being collected and paid to the owners.

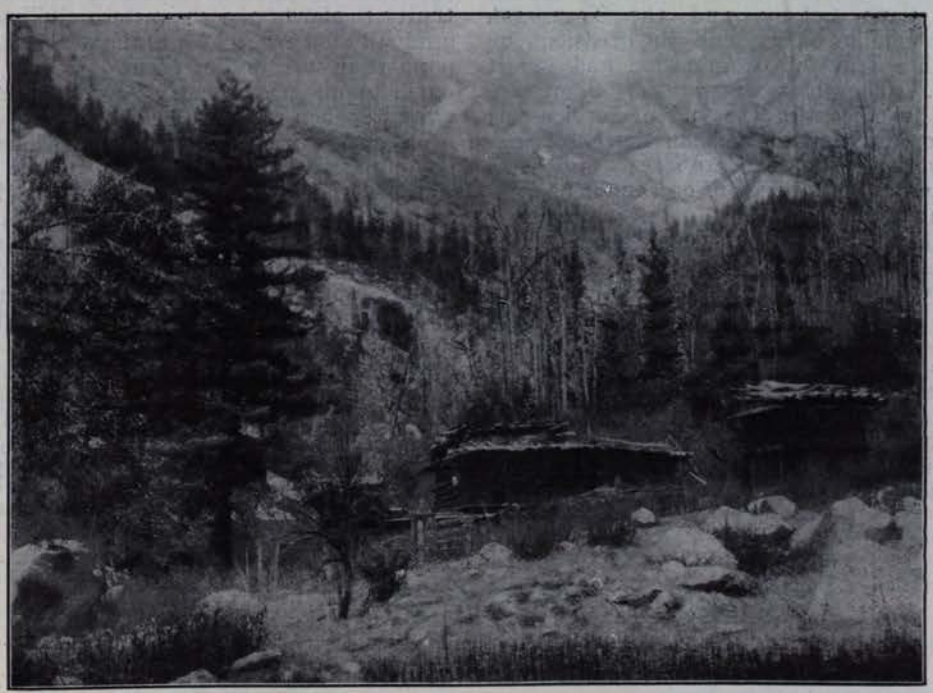
(*c*) The Hill Forests of the United Provinces.

The most important of these are in the Tehri State, and form the catchment area of the Ganges and Jamna Rivers. The former have passed from the control of the Forest Department, but the latter are still managed by its officers, and bring in a handsome net revenue of over one lakh of rupees annually to the owner.

(*d*) The Forests of Mysore.

The forests of Mysore extend over an area of about 4,200 square miles, and are in charge of a Conservator deputed from the Indian Provincial Forest Service. The system of management is based on that adopted in British India, and the staff is locally recruited. The forest revenue amounted in 1903-04 to about 5½ lakhs of rupees and the surplus to about 3 lakhs. Sandalwood is a specialty in this State, and brings in a revenue of about 10 lakhs of rupees annually, the operations being conducted by the Forest Department. But serious damage has occurred through the ravages of the "spike" disease during the past few years, and full investigation into its cause is now about to be made.

TYPICAL SUBMONTANE FOREST.



FORESTS OF PROTECTION, ABOUT 10,000 FEET ELEVATION.

(e) The Forests of Travancore.

Travancore possesses State forests to the extent of about 2,500 square miles, which bring in a revenue of some 7 lakhs of rupees and a surplus of about 2 lakhs. The system of management is adopted from that in force in British India.

(f) Other Forests of Native States.

Other Native States, such as Jodhpur, Bhawalpur, Patiala, etc., have organized Forest Departments to supervise the management of their forest lands and conduct their operations on the enlightened principles of the West. Of great interest are the forests of Central India, belonging to a number of the smaller Native States, which are not only valuable because they supply produce, but of vital importance in clothing the dry hills, thereby assisting in the maintenance of a constant water-supply. These forests have of late years come under systematic management.

It will thus be evident that the Government not only encourages in theory and by practice the spread of scientific forestry, but also materially aids in its application by the loan of trained officers to Native States and by the offer of a free technical education to candidates for their Forest Services. This offer has been freely taken advantage of by some 20 Native States in training their own nominees and in giving suitable posts to those who, as private students, have passed out of the Forest School.

Forestry in the Colonies and elsewhere.

The importance of the forests has been recognized in many of the colonies of the British Empire. Officers deputed from the Indian Forest Services, or who have been transferred to the Colonial Governments, manage the forests in Ceylon, the Straits Settlements, Southern Nigeria, British East Africa, Cape Colony and the Transvaal. Trinidad has a similar officer, and the occasions on which officers are lent for examination and report are numerous. The large forests of Siam are also managed by officers of the Indian Service. It will be seen therefore that the calls on the Forest Department for work outside the State forests of British India are numerous, and indeed often cannot be complied with owing to the paucity of the staff which is unable to cope with the rapidly increasing area entrusted to their care.

Conclusion.

In the preceding paragraphs the influence of forests upon the country and the means employed to take full advantage of their benefits have been set forth, but there are yet other aspects of the subject which are of appreciable, though of minor importance. That the beauty of the Indian woodlands is not ignored is proved by the ever-increasing number of visitors, in search of relaxation and sport, to the forests of the hills and plains. There is not now an European settlement in the hills where some attempt is not made to tend the forests with scientific care, not a station on the plains where indigenous jungle trees may not be found planted and protected. A holiday in the forests appeals to all as a change from the monotony of an official life or from the social demands of western civilization and, though often unacknowledged, the influence of forests on the minds of the people is always for good.

Further, the creation of State forests has permitted the introduction of rules preventing the annihilation of the interesting fauna of the Empire. Quietude during the breeding season, sanctuaries uncontaminated by man, a period of safety from hunters, and a limitation in the number of animals which may be killed, all these restrictions are necessary in view of the keenness of the modern sportsman and the superiority of modern weapons. The rules have been imposed with moderation and foresight, for, in the absence of animal life, a forest becomes a desert, and it loses one of its chiefest charms when intimacy with wild life is impossible.

Lastly, forest conservancy has not only preserved to the Empire at least a part of its forest wealth and of its interesting fauna, but has been the means of protecting those little known and independent communities which still exist in the solitudes of the Indian jungles. With them the Forest Officer comes into close connection and finds always something to interest and often something to admire. In the absence of their confidence and assistance his solitary work cannot be successful, and his sympathetic knowledge of their customs and requirements assures to them a continuance of the simple livelihood to which they have been accustomed for ages, so that they are afforded opportunity to slowly absorb western civilization and thus gradually to be merged into the settled and prosperous population surrounding them.

The presence of man is always inimical to forest growth; when civilized, he destroys it for his personal profit or advantage; when uncivilized, he fights against its oppression, so that he may not be overwhelmed. The insignificant clearing in the jungle is the first and surest sign that man is warring against the forces of nature, his strength lies in number, and his weapon of offence is fire, so that at last there is not a hill range in the Empire which does not bear the signs of conquest, and hardly a level plain which does not show either the vestiges of former forest growth, or at least possess ligends to bear witness to its former existence. With an ever-increasing population and prosperity, it becomes the duty of the Government to restrain the harmful and destructive action of its people, and how this is being done has been set forth in these pages.

Indian Art and Architecture.

THE Art of every country is the unconscious record of its History. The surviving specimens tell posterity of the state of the aboriginal dwellers upon its soil; of their development; of their migrations; of the character of the races which invaded, mingled with, or superseded them.

While Art thus illuminates the facts of History, the events comprising History exercise the most potent influence upon the character, scope and degree of luminosity Art casts upon them. An invasion of barbarians, or the destruction caused by internal strife, may blot out for ever the artistic records of such elaborately civilized races as doubtless inhabited India from very remote times, down to the dawn of History; while, on the other hand, similar records of more primitive, but secluded nations, are handed down intact from the storehouses of antiquity, and afford us both minute and exact information of their past.

The climate and the soil of the country they live in, have a powerful influence upon the preservation, or destruction of the treasures, and records of bygone peoples. How much, for instance, of our knowledge of her Art and History, do we owe to the dry climate and sandy soil of Egypt; and how much of our ignorance of her past is due to the heat and moisture of the climate of India which exercise so destructive an action upon all animal, vegetable, and many mineral products; an action which is materially assisted by the swarms of minor animals and insects bred in her rich soil.

The social habits and religious customs of a people, are also determining factors in the same direction. Of these, the mode a nation adopts of disposing of its dead, exercises perhaps, the greatest influence. In India, the Archæologist, the Historian, and the Artist, have to deplore the fact, that from time immemorial, the people have burned their dead; and with them, there can be little doubt, have been destroyed many interesting, and valuable records of the remote civilizations which flourished upon her soil. Other reasons for the paucity of knowledge we possess of India's remoter past, are to be found in the apparently exclusive use of wood as a building material by her people before the year B. C. 250; their ignorance regarding the value of bronze, as a material for domestic utensils, ornaments, and weapons; and the absence of the practice of incised writing upon clay tablets hardened by the sun or fired into bricks, which has revealed the civilization of the ancient Assyrians to the archæologists of to-day. Few Indian gold, or silver coins, or ornaments of a very ancient date now exist, and no textiles as old even as the Bayeux Tapestries, let alone, the still older woven fabrics of Egypt are preserved, to show posterity the beginnings of those traditional, and typical crafts of India.

It is to the remains of the stone and brick buildings of a date subsequent to the year B. C. 250, that we must turn, to infer the condition of the Art of India, before that date. The works now extant, prove conclusively, that a high degree of skill had been attained in the crafts of the Metal worker, the Carpenter, the Wood-carver, the Weaver and the Painter; for they afford evidence that distinct styles had been developed, placing them far in advance of the crude products of the primeval races inhabiting the country. The successive steps are missing, worn away by the slow erosion of time, or by one or other of the destructive agents mentioned above. Strangely enough, however, specimens of the "Primitive Art" still survive, and may be studied, among those aboriginal tribes, such as the Bhils, who, driven from the plains by the early invaders, settled in the mountain fastnesses and dense jungles, where undisturbed, they have carried on, unchanged, the same crude and simple crafts they practised thousands of years ago. These need not detain us long, for the specimens of musical instruments, basket and mat work, and jewellery produced by them, differ but slightly from similar articles, made by barbarous tribes in other parts of the world. They display the same feeling for pattern, and the childish fancy of all savage handiwork, together with a surprising degree of technical skill, when allowance is made for the crude appliances and the coarse materials employed in their manufacture. But the interest they excite being Ethnological, rather than Artistic, they can be dismissed, and attention turned to those Historic Styles of Architecture which form the basis of all Indian Art between B. C. 250 and the present time.

These are:—

1. Buddhist, dating from B. C. 250 to A. D. 750.
2. Jaina (1st period), dating from A. D. 1000 to A. D. 1300.
   „ (2nd period) „ „ A. D. 1420 to the present time.
3. Indo-Aryan, (1st period) dating from A. D. 495 to A. D. 750.
   (2nd period) dating from A. D. 100 to the present time.
4. Chalukyan (1st period) dating from A. D. 500 A. D. 750.
   (2nd period) dating from A. D. 1000 to A. D. 1300.

5. Dravidian (1st period) dating from A. D. 700 to A. D. 1000.
   (2nd period) dating from A. D. 1350 to the present day.
6. Indo-Saracenic 2nd period dating from A. D. 1000 to the present time.

As the above dates show, some of these styles are perpetuated, in more or less developed, or debased forms, to the present day; two (the Buddhist and Chalukyan) have completely died out. Some are allied, and possess characteristic features, showing development one from another, or both from a common source; while one (the Indo-Saracenic), is based upon opposite ideas from the rest as regards construction and decoration. Scarcely any Buddhist, Jaina, Chalukyan or Dravidian buildings used for civil purposes exist, those extant being Temples or other religious edifices; but many examples of the Civil Architecture of the Indo-Aryan, and Indo-Saracenic styles remain, to illustrate the degree of skill attained by their designers and builders.

We propose to consider the general character of each architectural style separately, together with the Arts of Sculpture and Painting with which each is allied. We then propose to deal with those arts which do not directly depend upon Architecture for their setting, such as gold, silver and other metal work, illuminating and writing, ivory and sandal wood carving, jewellery, weaving and other minor arts,

Buddhist Art.

Architecture.

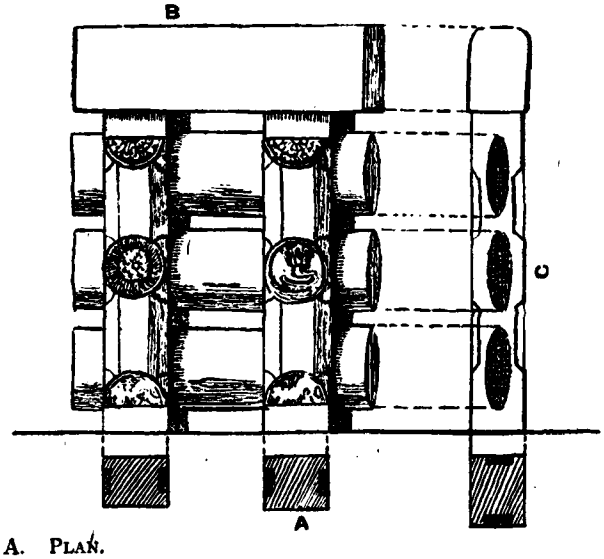
The Buddhist religion was founded about the year B. C. 660, but no work of Art connected with it is known to now exist, dating before the year B. C. 250, when King Asoka, who ruled over the whole of Northern India, was converted to the faith. He prosecuted a zealous missionary propaganda, not only throughout his own dominions, but over the rest of India, and beyond it, to Ceylon, Kashmir, Nepal, and Burma. As a means to the conversion of his people, he erected many hundreds of "Lats" or pillars, inscribed with the leading doctrines of the Buddhist religion. The greater number of these were probably of wood, for no trace of them can be found, but in a few instances the pillars were cut from solid blocks of stone, and have been discovered and restored. Their proportions and details point to a distinctly Persian influence, especially as regards the emblems which crown the capitals, the capitals themselves, and the bases. The other details would rather point to a Greek origin, for the neck of the pillar found at Allahabad, dating about B. C. 254, is ornamented with an almost exact reproduction of the honeysuckle design, used by the Greeks with the Ionic Order; and upon the other pillars are found both the "cable" and "bead and reed" ornament; but the capitals and bases, are so essentially Persepolitan, as to leave little doubt that both the Buddhists in India, and the Greeks in Europe, derived certain features of their Art from a common source. It is a fact worthy of notice, however, that the Greek details mentioned above, appear upon no other Buddhist works, either in the reign of Asoka, or at any subsequent period.

The Honeysuckle Design on the "Lat" at Allahabad, also used by the Greeks with the Ionic Order.

Before leaving these pillars it will be convenient to note the general characteristics of all Buddhist Columns; for whether used as isolated monuments, or as supporting columns for the roofs of Temples and Monasteries, they possess peculiarities distinguishing them from Greek, Roman or Gothic pillars. As they are the pattern from which the Jains entirely, and the Indo-Aryans and Dravidians partly, developed their pillars, this is important.

The great difference is, that the Buddhists did not adhere, as did the Greeks and Romans, to one or two simple and constant types, but they varied them indefinitely. They are generally square in plan for some distance up, when they become successively octagonal, sixteen-sided and round, ending with a square capital. Sometimes they terminate in a flat bulbous capital. When this happens, the shaft is decorated with shallow vertical flutings, which are cut by a horizontal ring at the neck, but continue over the capital. Their proportions are short and very massive, a characteristic due to the fact, that the only Buddhist roofed buildings known to exist at the present time, are caves excavated out of the solid rock, and the columns were therefore left with an ample margin of strength to support the weight of the rock above.

It must be here noticed, as a fact which had a determining influence upon their style, and therefore upon the character of their decorations, that all Buddhist buildings, whether hollowed out of the virgin rock, as were the cave Temples, or built up of separate stones, as were the rails and gateways of the Topes or Stupas, were based constructionally upon the wooden buildings

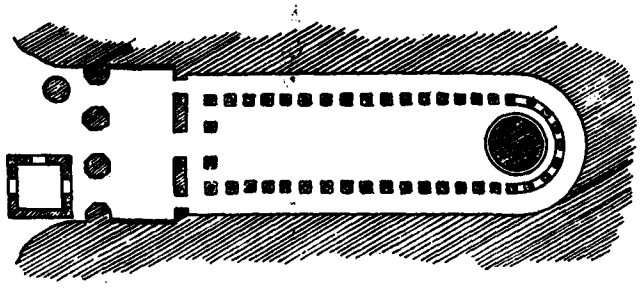


A. Plan.
B. Elevation and Section of a Buddhist Stone Rail.
C. Showing its "Wooden" Construction.

which preceded them; that is upon the craft of the joiner, and not upon that of the mason. The roofs and the openings in the façades of the rock-cut Temples, imitate in stone, buildings which previously existed, constructed of wood; and the stones of the rails and gateways at Sanchi and Bharat are not built up in accordance with science of strains and joints practised by masons, but follow the system practised by joiners of wood. This peculiarity is characteristic of nearly all Indian Architecture, except that of the Saracens. Its artistic result is apparent in the use of square-headed openings in all constructed buildings; no pure arch with radiating voussoirs, such as are common in Europe, since the days of the Romans, being known to exist in India. The only pointed arches in buildings of purely Indian origin are firstly, the rock-cut roofs of the Chaityas or Temples of the Buddhists, which in the instance of the specimen at Karli is actually supported by wooden ribs, and in those at Ellora and Ajanta by ribs carved, cut in stone in imitation of their wooden prototypes; and, secondly, in the horse-shoe openings, cut out of the solid rock, of their outer façades. In constructional buildings such as those of the Jains, the openings invariably have horizontal stone architraves, supported upon bracketted pillars, with stone struts. The brackets and struts at the capitals of the vertical pillars serve to reduce the size of the openings of the window at the top, and cause it to assume a more or less pointed shape. It is only necessary to compare this method of construction which is a purely wooden one, with that practised by the Roman and Mediæval builders, to see at once the influence it had upon the nature and direction of their ornamental details.

The history of the art of India is full of mystery, and that of the sudden adoption of stone, as a material out of which to construct Temples and other religious buildings, is as puzzling to Archæologists as are the causes which so long deferred its use, in a country where stone suitable for building abounds, and is so easily accessible. The invasion of Alexander the Great and the settlement of the Græco-Bactrian kingdom close to the borders of India, are solutions of the problem, which have supporters, but, as the change of material made very little apparent difference to the character of the buildings, as regards style and decoration, the causes which brought it about are of more interest to Archæologists than to Artists, and need not be enlarged upon.

The most characteristic and impressive works of the Buddhists are the Chaityas or Temples, and the Viharas or Monasteries, excavated from the solid rock. The former resemble in plan an English three-aïsled Cathedral without transepts, but with the same semi-circular apse; that at Karli, on the Western Ghauts, near Poona, being almost identical in general arrangement and dimensions with the choir of Norwich Cathedral. Their only light enters from a large horse-shoe shaped opening, cut through the external wall of the cave. This is placed high up above the somewhat narrow entrance, and formerly contained a pierced wooden screen, the precursor of the stone screens, which are such a characteristic feature of Indian Architecture. The principal decorative feature of the external façade is this horse-shoe window, and its shape is repeated in the form of niches or bands of ornament over the exterior face. The niches are generally filled with figures of saints, which are somewhat crudely carved, and lack the surface interest of their granite prototypes in Egypt, but attain a dignity, from the impressive character of their setting, which disarms or at least mitigates any critical objections to their details.



PLAN OF A BUDDHIST CHAITYA.

The Viharas or Monasteries are not of such comprehensive interest as the Chaityas. They lack the sense of a completely thought out plan that impresses the spectator so forcibly in the latter, while their arrangement gives less scope for decorative treatment, and picturesque light and shade. In plan the Viharas are rectangular, their low roofs being supported upon rows of massive pillars left for that purpose. In the middle of the interior wall, facing the opening, the cell or shrine is excavated, in which sits the image of Buddha, while along the side walls are the openings leading to the cells of the monks. Between these doors, panels in high relief, illustrating incidents from the life of Buddha, or Mythological subjects, are carved. The pillars vary indefinitely in shape, and are decorated with great taste and variety in their ornament. Placed amid their wild and picturesque surroundings, where the dressed and sculptured symmetry of their façades contrast so forcibly with the rugged cliffs from which they are wrought, and the wealth of undergrowth surrounding them, these Chaityas and Viharas of the Buddhists cannot fail to impress the spectator with a feeling of reverence for the imaginative power which conceived them, and the patient industry which brought them into being. There is a largeness in the Buddhist treatment of wall spaces, an appreciation of the value of contrasted plain and decorated surfaces, which raises their art above that of any succeeding style in India, except that of the Mahomedans, and links it more nearly to that of the Egyptians, the Assyrians, and the Greeks, than to those of the Jains or Indo-Aryans, who drew their inspiration from it.

BUDDHIST SCULPTURE AND CARVINGS.

The earliest Buddhist stone carvings afford the best evidence extant of the high degree of skill the wood-carvers of that age had attained to. When these craftsmen, for reasons not known, suddenly turned their attention to the carving of the harder and more lasting material, they showed not the slightest indecision regarding style. There was nothing crude or fumbling in their idea of form. All was as complete and fully developed as it was a thousand years afterwards. As

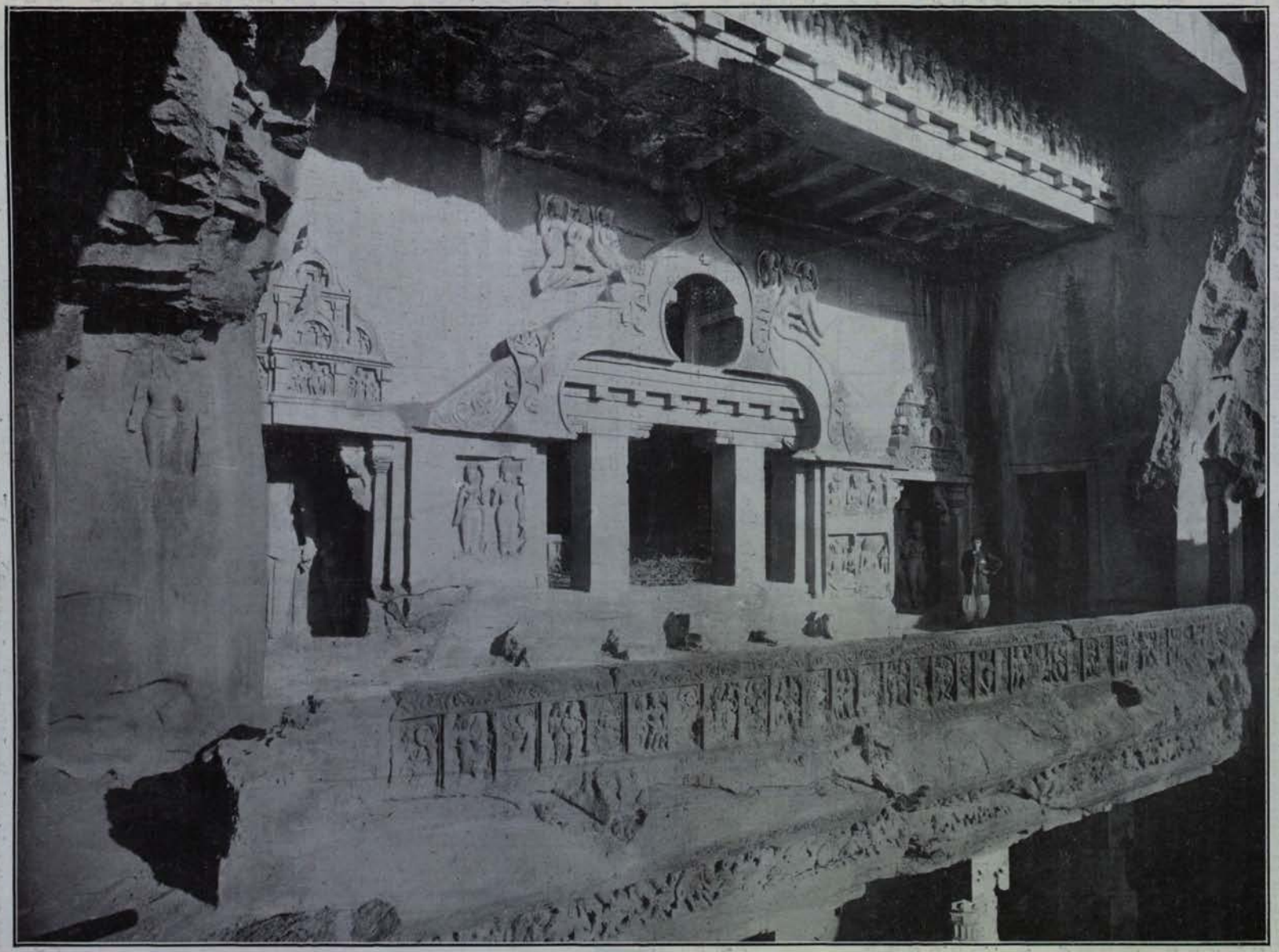
was the case with the constructional joiners, the stone carvers appear to have transferred to stone, the ideas and experience they had acquired as workers in wood. They went even further, for there is as much evidence in its favour as to the contrary that the rosettes which either entire, or in segments, form so important a feature in the decorations of the rails of the Topes, and the pillars, and beams of the Viharas, are derived from the metal pins, or nails, used to strengthen the joints in the wooden doors and posts of a previous age.

The earliest Cave Temples, although probably of a later date than the "Lats" and "Rails" are much simpler in their decorations. The explanation of this is, that when the Topes were the centres of religious ceremonial, the Cave Temples were only rough excavations made by hermits. As, however, the Temples gained popularity as the resorts of the religious, the Topes fell into disuse and decay, while the Temples became more resplendent with carving. The Buddhist religion was originally Buddhism without a personal Buddha, and remained so for some hundreds of years, but as the simple character of the faith became infused with the leaven of Brahminical mythology, the figure of Buddha himself was worshipped, and is found in all the later Viharas. Of all Buddhist Sculpture, these figures of Buddha are the most impressive. The sculptors seem to have caught some of the spirit of repose, which formed the basis of his religion, and have embodied it in their representations of the Apostle of the "Nirvana." This impression of calm repose is also undoubtedly due, in a great measure, to the size and material out of which the figures are cut, for the same inscrutable expression of perfect rest is found in the rock sculptures of Egypt and the colossal figures of the Jains in Southern India. Whatever the causes which produced this effect may be, certain it is that these gigantic figures affect the imagination in a manner and degree that no sculpture in Europe can match.

Buddhist Painting.

Although the façades of the Buddhist Cave Temples are now of sculptured and dressed stone, without colour, there is considerable reason to believe that formerly, many of them were covered with a thick coating of lime plaster, upon which designs were subsequently painted. That the Topes were so covered is certain, as shallow incised patterns have been found upon the plaster which still remains, although the colour which usually accompanied this style of decoration has disappeared. On the Kylas Monolithic Temple at Ellora, a considerable amount of painted plaster still adheres to the stone on both the decorated and plain surfaces; and although this Temple was of a somewhat later date, than those of the Buddhist ones in the neighbourhood, there is very good cause for the belief that the practice was inherited by the workers who produced the later building from their predecessors who made the earlier. These fragments of painted plaster would give little idea of the skill of the draughtsmen who practised their Art in India, in the early years of the Christian era, were there no other remains to testify to it; but fortunately, at the Caves of Ajanta, there still exists a series of wall-paintings which (to quote the words of Mr. John Griffiths, the Author of that standard work *The Buddhist Cave Temples of Ajanta*) "in spite of their obvious limitations, the work is so accomplished in execution, so consistent in convention, so vivacious and varied in design, and full of such evident delight in beautiful form and colour, that I cannot help ranking them with some of the early works of Art which the world has agreed to praise in Italy." This opinion, Mr. Fergusson, who visited the caves in 1838-39, anticipated when he wrote: "the style of the paintings cannot of course bear comparison with European painting of the present day; but they are certainly superior to the style of Europe during the age in which they were executed; the perspective, grouping, and details are better, and the story better told, than in any painting anterior to Orcagna and Fiesole. The style, however, is not European, but more resembles Chinese Art, particularly in the flatness and want of shadows; I, however, in China, saw nothing approaching its perfection." With regard to the painted ornament, the same authority said: "It is not at all unlike that still existing in the Baths of Titus." The similarity noticed between these paintings and those of such widely divided schools as the early Italian and the Chinese, only demonstrates the well-known fact, that the artistic expression of all nations and peoples keeps within extremely narrow limits during its primitive stages. It is only when civilization reaches a higher level that divergencies are developed. The perception, and science of light and shade, have apparently been hidden from, or have failed to interest, the artists of the East, whose development has been entirely in the direction of the decorative treatment of surfaces and the portrayal of action. In so far, therefore, as these paintings are without light and shade, and lack atmosphere they resemble both the early Italian and Chinese; while in a certain exuberance of action, and in their method of outline drawing, they distinctively suggest the paintings of the latter. The painted ornament is Chinese also in its naturalistic treatment, and at the same time, as has been mentioned by Fergusson, it suggests the wall paintings of the Romans and, it may be added, also that of the early Majolica painters of Italy. It is impossible in the small space at our disposal, to give any detailed descriptions of the paintings, except that the subjects are representations of the chief incidents in the life of Buddha, and that they vividly depict the costumes, habits, and types of the people of India eighteen hundred years ago. The pictures which number considerably over one hundred, have greatly darkened, probably by the action of the atirficial light used to illuminate the caves; and have been cruelly defaced, and neglected in the past. They are the only paintings in India, on a large scale, that can be compared with the works of the wall painters of Europe, in the Middle Ages; but their inaccessible situation, their state of decay, and the darkness of the chambers they are in, cause the originals to be known chiefly through Mr. Griffiths' book, and the full-sized copies made under his supervision.

No other works of Art of the Buddhists have come down to the present time, but there can be little doubt



Façade of the Buddhist Cave Temple of Vishnavama at Ellora showing the horse-shoe opening and the imitation in stone of the wooden joists of a previous period.

that the Arts of the Metal worker, the Potter and the Weaver were in as advanced a stage of artistic development as those of the Architect, Sculptor and Painter. But no trace of their skill has survived the social and religious upheaval, which brought chaos into India for three hundred years between A. D. 750 and A. D. 1050, and caused the practical extinction of the Buddhistic religion in this country.

Before leaving this, the earliest style of Indian Art, and that, from which succeeding ones, derived either the whole, or some part of their inspiration, a list of its principal monuments, and their localities, may here be given.

Lats, or Pillars—Allahabad, Delhi, Taukissa, Tirhoot.

Topes, or Stupas—Sarnath, Amravati, Gandhara, Jallalabad, Manikyal.

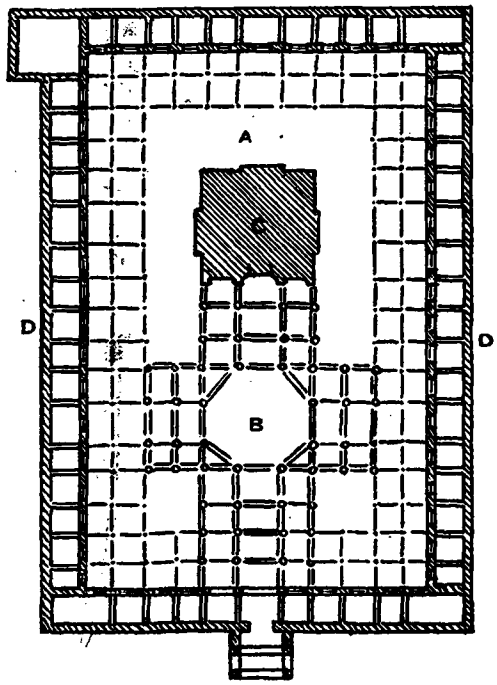
Rails and Gates—Bharhat, Mattra, Sanchi, Amravati.

Chaityas and Viharas—Behar, Karli, Nassick, Ellora, Ajanta, Kanheri, Gandhara.

JAINA ART.

Architecture.

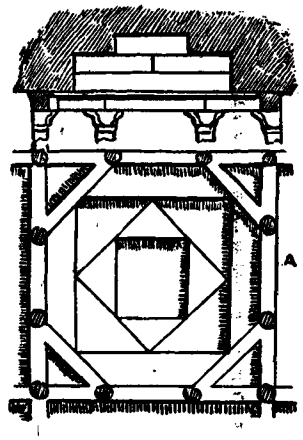
It has been mentioned above that Buddhism was the religion of the greater part of India up to the year A. D. 750. Civil wars then began, which convulsed the Peninsula for three hundred years. When



PLAN OF A JAINA TEMPLE.
A. COURTYARD. B. CENTRAL DOME OF THE PORCH C. CELL OR SHRINE. D. D. CELLS SURROUNDING THE COURTYARD.

order once more reigned, Buddhism had ceased to exist, except in a corner of Bengal, and its place had been taken throughout the west by Jainism, while Vishnuism had usurped its inheritance in the East. In the South, the religion of Siva had been adopted by the mass of the people, and these three religions had all assumed new and complex forms, by having incorporated local superstitions into the simple forms of their earlier doctrine.

Although probably derived from early Buddhist temples, constructed of wood, those of the Jains differ entirely from them in plan. They have a small square shrine cell, lighted from the door only, and crowned with a high pyramidical tower, with curvilinear sides, forming an imposing feature. In front, forming an entrance porch, is a hall, in the centre of which is a dome invariably built in horizontal courses of stone, and supported upon eight pillars, with four extra pillars at the angles, having bracket capitals. The peculiarity of this method of construction is that, however many domes there may be in a building, and however different their heights may be, they can be easily supported upon columns without the aid of buttresses, for there is no lateral thrust, as is the case with the arched domes of the Roman and Rennaissance buildings.

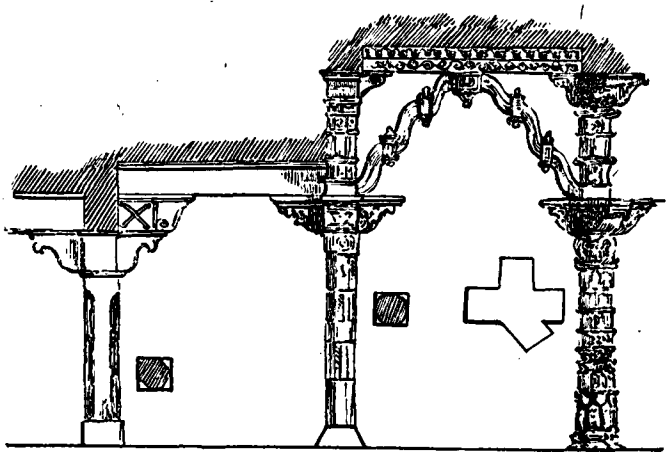


PLAN AND SECTION SHOWING THE CONSTRUCTION OF A JAINA TEMPLE.
A. PLAN. B. SECTION.

The decorative consequence of this mode of construction is that all the ornaments of Jaina domes are horizontal, that is, bands of ornaments are arranged in concentric rings, one above the other, instead of being disposed in vertical ribs as in Roman and Gothic vaults. The single stone, which forms the apex of the dome, is usually carved on its underside, into an elaborately designed pendant. The columns supporting the roof of this hall radiate from the central octagon, so as to make the whole structure cruciform on plan; a feature which is shown in the elevations, and which renders these buildings extremely picturesque, as regards light and shade, each face as the sun travels round presenting some new and striking effect. The pillars supporting the roof and domes are lighter in character than those of the Buddhist Cave Temples. They are most elaborately carved, the shafts being as intricate in outline and as highly ornamented as the capitals or bases. The capitals are of the bracket type, and the whole construction is undoubtedly derived from a timber original. They have a peculiarity seen in no other style, namely, that of having an upper shaft superimposed upon the main or lower one. Upon these upper columns rest the great beams or architraves which support the dome; as, however, the bearing is, or appears to be, long, the weight is relieved by a curious angular strut or truss of marble or stone, which, springing from the capital of the lower pillar, seems to support the middle of the beam. The interior of the

Interior of a Dilwara Temple, Mount Abu, showing the Elaborate Carving of the Marble Columns, Capitals, Struts and Beams of the Jaina Style in the North of India.

domes, together with their supporting capitals, struts and beams are covered with a bewildering quantity of ornament which undoubtedly destroys the massive effect, expected in buildings of stone, while the reiteration of the same conventional image of the particular saint in whose honour the Temple is built, further tends to weary the spectator. Despite the impression made by the ingenuity and boundless industry, displayed in the carving of the details of pure ornament, and the fine colour of the marble out of which the columns are frequently wrought, a feeling is induced that the right principles have been lost sight of, and that the style is decadent.



DRAWING SHOWING THE DOUBLE BRACKETTED PILLARS WITH STRUTS FOUND IN JAINA TEMPLES.

It is of interest to note, that until the coming of the Moslems, the Jains were the only builders in India who attempted to construct an internal dome of stone. The Hindus tried a few timid imitations without much success, but the dome never became an essential feature of their style, as it always remained of that of the Jains. There is one peculiarity, however, common to both the Jain and Hindu Architecture of Northern India; it is the form of the pyramidical towers, called Sikras or Vimanas, which surmount the cells in which the sacred images are placed. On the outer elevations, the middle portions of the towers project slightly over their bases, but from this point to within three-fourths of their entire height they bend inward in a flat curve, and are surmounted by what is called an Amalaka. This is a flat bulbous cap, which appears to be based upon the shape of a melon or gourd; it is generally surmounted by a flat dome of reverse curvature, in the centre of which stands the kullus or pinnacle in the form of a gracefully designed vase.

This combination of a rectangular tower the sides curve inward toward its summit, surmounted by a circular cap and finial, is quite original, and is found in no other architectural style in the world.

Its origin is a complete mystery, for, like the existing Buddhist structures, the earliest examples of Jaina Architecture are as fully developed and complete in all their parts as the examples built at any subsequent period.

As the greatest works of the Buddhists were their excavated rock temples, so the masterpieces of the Jains are seen in Temples *constructed* of stone and marble. They were never great Cave diggers; the nature of their religion not requiring great assembly halls, like the Chaityas of the Buddhists. Like the Brahmins, however, they followed the fashion, to which India had become accustomed to attach an idea of sanctity, and consequently we find Jaina Caves at Khandagiri near Cuttack, and at Ellora. The Indra Sabha Cave Temples at the latter place were finished about A. D. 700, but have a much greater affinity for the Dravidian style as seen in Southern India, and in the neighbouring Brahmanical Kylas monolithic temple, than to the Jaina Temples at Mount Abu, Palitana, Sadri and Girnar.

JAINA SCULPTURE.

Unlike the Buddhists, the Jains have many monuments in Southern India, but the development of the religion led to a different artistic expression in the South to that in the North. It has been noticed that the style in the North is remarkable for the elaborate and lacelike treatment of stone pillars and mouldings; the workmen appearing to revel in the labour of piling detail upon detail. In the South, its remarkable manifestation is seen in the three colossal images, each fashioned out of a single block of granite. The one at Shravana Begula is 70 feet 3 inches high; the second at Karkala is 41 feet 5 inches, and although it weighs 80 tons, was wrought at some distance, and subsequently moved to the place in which it now stands; and the third at Yannur, which is thirty-five feet high. In these figures, there is not a trace of energy being frittered away upon meaningless ornament, but they are treated with the grandeur and simplicity of the rock-cut monuments of Egypt, and with the seated Buddhas at Ellora, and the Trimurte at Elephanta, are among the most impressive examples of the Art of figure Sculpture in India. Two developments of Jaina Art remain to be noticed. The first being the two towers at Chittore, and the second, the Stambas or isolated pillars, found chiefly in Canara.

The two towers at Chittore were built at widely separated intervals of time; that of Sri Allat being erected and dedicated to Adnath, the first of the Jaina Tirthankars, in A. D. 896, while that of Khambo Rana was built to commemorate his victory over Mahmud of Malwa, in the year A. D. 1439. The earlier tower is 80 feet high, its extremely graceful exterior being covered with the most elaborate carving. The later one is 120 feet high, and is carved in the same profuse manner, but owing to the shape of the mass being simpler, and the ornament being upon a small scale, compared with the whole building, and less deeply cut, the effect is more satisfactory than in the earlier example.

The Stambas or pillars of the Jains are doubtless the lineal descendants of those of the Buddhists, for they occupy the same position outside the temples. Many of them are of exceedingly beautiful proportions. Standing upon a succession of wide sub-bases or platforms of stone, the base of the shaft which is square changes as it rises to an octagon, and thence into a polygonal shape

approaching a circle. Above, is a wide-spreading and elaborately carved capital, upon which rests a canopy, supported by four pillars. Extremely beautiful reminders of these Stambas are to be seen in the dove-cotes which adorn the streets in Ahmedabad. It must be allowed that in these Stambas, the Jains have solved in perhaps the most satisfactory manner possible, the type and proportions, isolated pillars should take. Those we erect in Europe are reproductions of pillars meant to support the architraves of buildings. They are solecisms when merely supporting statues, or nothing at all, and, that this is not generally recognized, shows how easily the eye may become accustomed to, and tolerate in artistic conventions, having the hall mark of antiquity.

Jaina Painting.

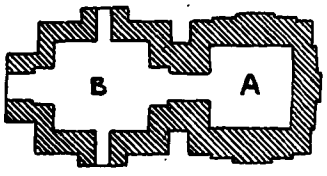
No Jaina painting now exists to show whether the art was practised, during their ascendency, for the decorations of their Temples. In noticing their Architecture and Sculpture therefore the record of their distinctive style is complete. The finest specimens of the Northern style of Jaina Art are to be seen at Palitana, Girnar, Mount Abu, Gwalior, and Chittore; while the most interesting monuments of the Southern style are to be found at Yunnar, Shravana Begula, Moodbidri, and also at Gurusankerri in the Kanara Districts.

Northern or Indo-Aryan style.

The Architecture known as Indo-Aryan is that practised by the descendants of the Aryans, speaking languages based upon Sanscrit, as distinguished from the Dravidians, speaking Tamil. It is very unevenly distributed throughout the Northern, and West-Central portions of the Peninsula, where alone it is found; for there are more temples of this style in the Province of Orissa than in all the rest of Hindustan put together, and it is more frequently encountered in the valley of the Nerbudda and in Gujarat than in the valley of the Ganges. This is due, in a great measure, to the manner in which the Moslem conquerors destroyed the Hindu temples in the latter district, and utilized their pillars and other stones in building their own Mosques. Considering that it is one of the pre-historic styles, from which the Jains took many features, it is one of the many mysteries of Indian History and Art that in so sacred a city as Benares, not a single ancient Hindu temple is to be found; the earliest temple of the Indo-Aryan style in Northern India dating from about the 7th century A. D. In plan the Temples are always square, internally, and have the same pyramidical tower, or *sikra*, with curvilinear lines, common to those of the Jains. Externally the plan is modified by the addition of rectangular projections, sometimes one only, but often two or three. The external plan then resembles a serrated square. The original cell, however, always retains its square form and direction, and the entrance and windows keep their positions; its four corner angles are larger and more strongly accentuated than the others, and the lines are carried through to the summit of the pyramidical tower. One distinctive feature, separating this style from all others in India, is the general absence of pillars in the buildings. In some of the most modern examples, as for instance, the porches added to the temples at Bhuvaneshvar and Puri, in the 12th and 14th Centuries, pillars are found, but hardly one pillar exists in the 500 or 600 original shrines, erected between A. D. 637 and 1174, at the former place. The whole building generally consists of a temple, or a Vimana, in which the images of the gods are enshrined, and a porch: each being cubical in shape and of the same size. The temple proper, as has been noted, is surmounted by a curvilinear pyra-

Jaina "Stamba" or Pillar frequently seen in South India.

midal tower, of considerable height, but the porch is roofed by a straight square pyramid of a much lower pitch, contracting towards its apex in gradual steps, and surmounted by a single carved stone. Sometimes one or two more porches are added in front of the main one, but these are almost always afterthoughts, and not parts of the original design. The carving upon the ancient temples, such as the great temple at Bhuvaneshvar, is of the most elaborate description, and extends to every stone in the elevations; but is sufficiently small in scale, not to seriously interfere with the outline of the building. While this minute elaboration of ornament is characteristic of the religious enthusiasm of the people, and their marvellous industry and patience, it equally brings into prominence their lack of the artistic faculty, of adapting the simplest and most direct means to the end they have in view. The greater part of the labour expended upon the upper portions of these temples is entirely wasted; for the intricate and lacelike ornament carved upon the stones cannot be seen by a spectator standing on the ground. Some of the Sculpture, such as that seen on the doorway of the Raj Rani Temples at Bhuvaneswar, is of a high quality, both as regards conception and execution, while a solitary Stamba or pillar of stone, supposed to be of the twelfth or thirteenth century, at Jajepur, is excellent in its proportions, restrained in contours, and tasteful in its details.



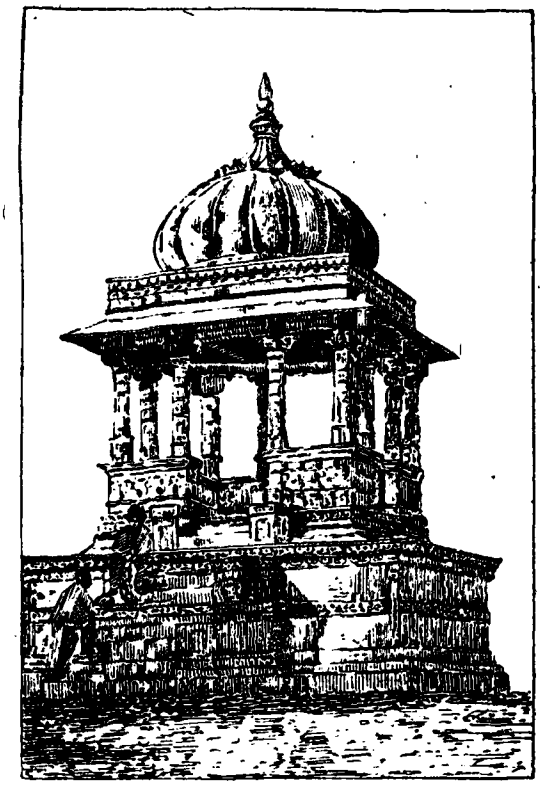
A. Vimana or Cell.
B. Porch.
Plan of Indo-Aryan Temple.

The most famous temples of the Indo-Aryan style, uninfluenced by any other, are to be seen in Bhuvaneswar, Kanaruc, Puri, Jajepur, and Cuttack in Orissa, but in Western India the style is seen struggling with the influence of the Dravidians from the South for supremacy. In the Southern Maratha Country, at Dharwar, stone-constructed Indo-Aryan temples are found, while at Ellora, in the Nizam's Dominions, rock-cut Temples of the Dravidians and Indo-Aryans stand side by side.

The difference between the constructed temples upon the West and the East are more those of scale and variation of planning than of taste, and the same may be said of the many Temples in Northern and Central India; but when excavation takes the place of construction, as is the case in the rock-cut temples, the influence of the material appears to assert itself, and a bolder and grander style results. The Hindu caves at Ellora are overshadowed by the masterpiece of the Dravidians, the Kylas monolithic Temple, but contain much fine work, free from the elaborate details and fatiguing sense of labour, so oppressive to the student of their buildings. Of their Sculpture we propose to speak later, but will now turn to that section of Hindu Architecture, which is absent altogether from the Buddhists, and only feebly represented in the Chalukyan and Jaina styles.

Civil Architecture.

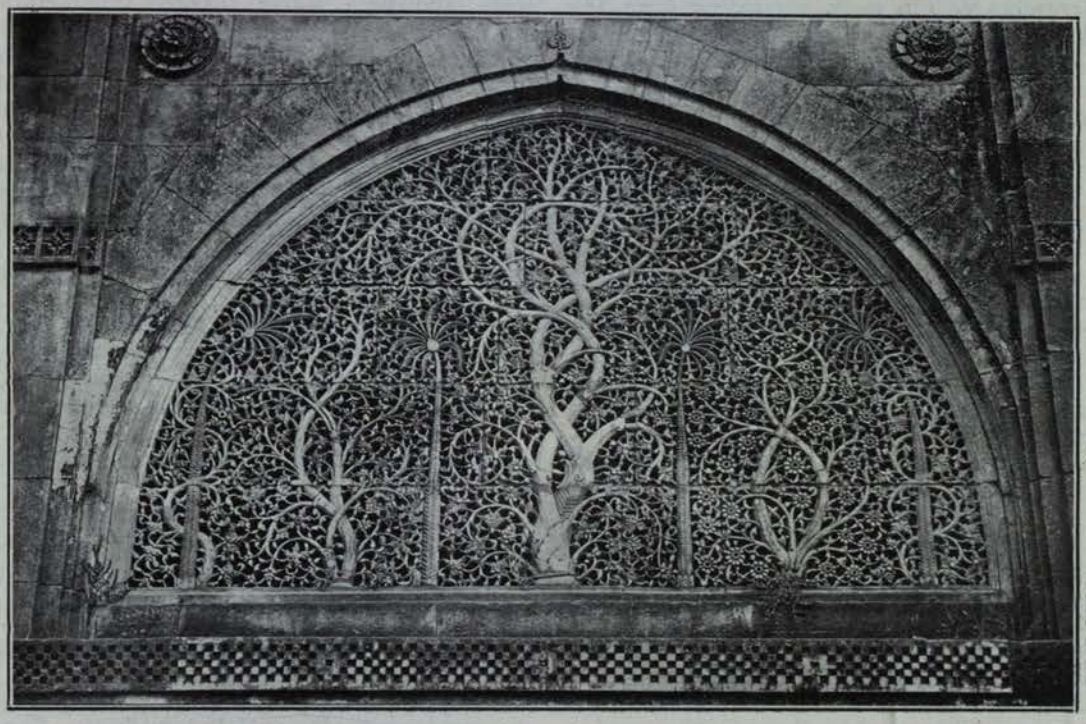
Under this denomination are comprised cenotaphs, palaces, ghats, reservoirs and dams. The practice of erecting chattries over the spots where the bodies of famous kings had been burnt was undoubtedly modern, and probably borrowed from the Mahomedans. Outside every Rajputana Capital will be found Mahasati, situated in some rocky and well-wooded locality. At Oodeypore hundreds of these chattries are to be seen. That raised to the memory of Singramsing, who was burnt here with twenty-one of his wives, in 1733, being one of the finest. It consists of a fifty-six pillared portico, supporting an octagonal dome, raised upon eight dwarf pillars. That to Amersing II, though simpler, is no less beautiful; in fact, these chattries and cenotaphs are, in the opinion of many judges, the most tasteful of all structures erected by the Indo-Aryans. They

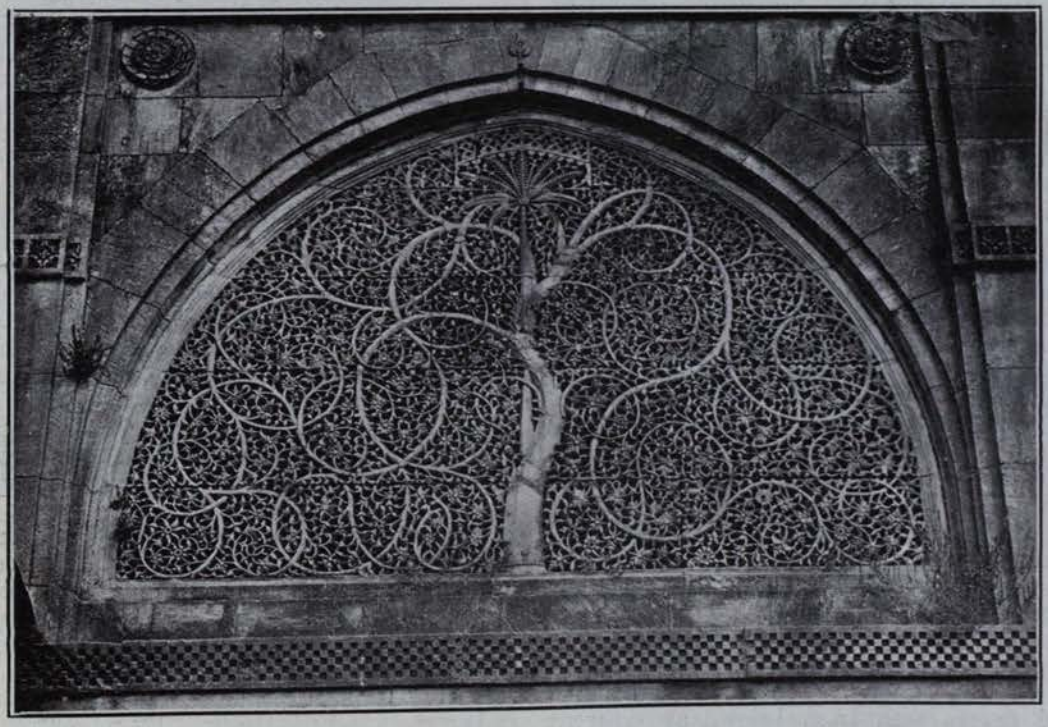


Cenotaph to Amersing II at Odeypore.

are small in scale, and being open upon all sides, their slender pillars, and the intricate lacelike style of their decorations, seem entirely fitting for their purpose, and add to the lightness and delicacy of their effect, which is their peculiar charm, enhanced as it is, as a rule, by their beautiful surroundings.

In Northern India, where the Jaina style was rarely used, the Hindus adopted an arched style for the doorways and windows of their palaces and cenotaphs, derived from their Mahomedan Conquerors. The cusped and foliated arches were not, however, true arches, in the Roman sense, but merely developments of the "bracketted" style, common to Jaina architecture.





Pierced Stone Screens of the Windows of a Mosque at Ahmedabad.

Another original feature, seen in no other style, is the curved cornices of the roofs projecting from the façade. This has been obviously derived, like so much other Indian stone work, from a wooden original. It first appears in one of the cenotaphs at Ulwar. It could not have been a particularly pleasing feature in its original material of bent bamboos, but it there had a sound utilitarian, and constructional basis, for its adoption. When transferred, however, to a material so inflexible and rigid as stone, the absence of horizontal lines, and the constructional incongruity, are displeasing, even when applied to small features, such as the coverings of the projecting canopies of balconies; and these failings are more apparent still, when the style is adopted for the roofing of an entire building. It is extremely popular, however, and despite its departure from the canons of sound taste, continues to be repeated to the present day.

Palaces.—As their cenotaphs embody the highest taste of the Hindu builders, so their palaces, rather than their temples, best exemplify their feeling for architectural magnificence. Every little capital possesses a royal residence, and in such cities as Jeypore and Oodeypore, they are of great extent and magnificence. They lack the massive character of the ancient fortress palaces, but for grace of outline and elaborate detail, they are almost as far in advance of them as the fortresses themselves are, from the rocks upon which they stand.

Among the most beautiful of these is the garden palace at Deeg, erected by Surajmull, the founder of the Bharatpore Dynasty. The whole palace was to have consisted of a rectangular enclosure, twice the length of its breadth, surrounded with buildings; with a garden in the centre laid out in the formal style of the East, interspersed with architectural ornaments, fountains and parterres.

One half only has been completed, but for elegance and beauty, it marks the culminating point of Hindu Civil Architecture.

The finest palaces in this style are to be seen at Jeypore, Amber, Oodeypore and Deeg, but many good examples are scattered throughout Rajputana, and Central India.

Ghats or Steps.—These are found on the banks of all the principal rivers, but those of the Ganges, are most remarkable for the number and interest of such structures. The City of Benares is famous for its ghats. The steps which afford access for bathers to the water are generally broken by small projections, often crowned by kiosks, which relieve the monotony of the long horizontal lines of the steps. Behind the ghat proper is always a building, often placed there for the sole purpose of architectural display, but also serving to afford shelter from the rays of the sun. In some cases, however, the solid base of this structure is surmounted by a temple.

When every river and tank in India has its ghat, it is impossible to give any detailed list of those that are interesting architecturally. Nothing perhaps is more typical of the country, nor more fascinating to the artist, than the picturesque scene, these river steps offer, at almost every hour of the day. The varying groups of brightly clad figures seen from below, at different elevations against the fine architectural background, or the same groups, with the line of bathers beyond, whose skins shine like burnished bronze, aganist the pale green and blue water, afford innumerable subjects for the painter's brush, as does the infinite variety of characters found amidst those assembled there. Although Benares is most famous for such scenes, yet the Ghat at Maheshwar, on the Nerbudda, those at Ujjain, at Nassick, and other ancient cities upon the sacred rivers, almost rival it for beauty of architecture, and the picturesqueness of its crowds.

The heat of the climate of India has given birth to another form of architecture not found elsewhere, namely, to the reservoirs or "bowlees." These are wells dug sometimes 80 or 100 feet into the earth, till water is found. Externally, the only objects seen are two pavilions, from which steps, from twenty to forty feet wide, lead down by stages to the water. The stairs are supported upon pillars, or cut out of the rock, while a stone ballustrading or screen gives security to those who descend. The coolness of these subterranean galleries fully compensates for their inevitable gloom, and make them favourite places of resort during the hot hours of the Indian day. A very interesting example is to be seen at Ahmedabad.

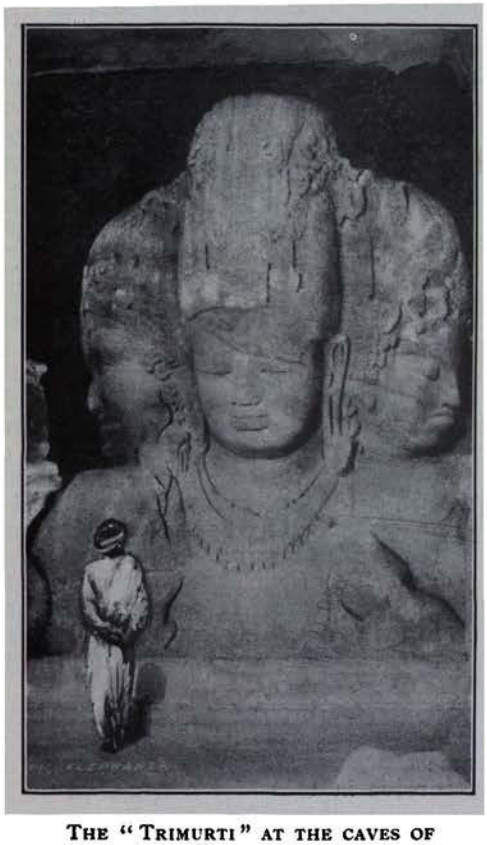
The Bunds, or Dams of the artificial lakes, constructed for the purpose of pleasure or irrigation, are often made into works of great architectural beauty. The steps leading to the water are broken by masses of masonry, supporting kiosks, temples or pavilions, while the entrances to the outfall tunnels are fine in proportions, and often elaborately carved. When all these are of marble, and are set in a background of wooded hills, it is difficult to conceive a combination containing more of the elements of natural and artificial beauty.

Indo-Aryan Sculpture.

In the carving upon both the religious and civil buildings of the Indo-Aryans, we see two qualities of the race impartially displayed, namely, their infinite patience and love of detail. In the former, these qualities are guided, but not diminished by the exuberant fancy, born of the worship of the gods of the Hindu Pantheon. This has been inimical to the cultivation of the taste for pure form, such as we know it, in the works of the Greeks. That much of their sculpture possesses imaginative quality, cannot be doubted, as much, perhaps as was possessed by the carvers of the decorative figures, upon the Gothic Cathedrals of the Middle Ages, in Europe; but at an early date, there appears to have been a sudden collapse of this imaginative impulse, the types of their gods and goddesses became stereotyped, and from a living art, their sculpture became a dead repetition. The fetters of this conventionalism have never been broken in their religious buildings; they are too strong to be affected by the art of the aliens, who conquered the country, or of those with whom they came into contact, in other ways. As their music is strongly rythmic, but is lacking in melody, so their sculpture shows a certain regular pulsation of line, but lacks beauty; and having lost that hold of the actual, which gave restraint to the Greek, Roman, and Italian sculpture, it has degenerated into the absolutely feeble, or become wholly fantastic. By comparing the impressive sculptures in the Caves of Elephanta with those representing the same deities in modern Indian

temples, the measure of the decadence of their religious art can be computed.

In the case of the carvings upon their civil buildings, this iron bound adhesion to given types has been relaxed, and the influence of their Mahomedan conquerors is very apparent. Full play is also given to the



THE "TRIMURTI" AT THE CAVES OF ELEPHANTA.

natural aptitude of the race, for intricate design, based upon natural forms. The bases, and caps of their columns and the spandrils between their arches, are enriched with beautiful and delicate ornament carved in low relief, while the workmanship of their pierced screens fully holds its own with that of the Mahomedans, which it excels in artistic interest. The two stone screens at Ahmedabad, though inserted into the openings of a Mahomedan mosque, are purely Indian in feeling, and were undoubtedly executed by Indian workmen. They are too well known to need description, and are admitted to be unexcelled in beauty, of both design and workmanship.

The sculpture upon the Civil buildings of Indo-Aryans is almost entirely confined to pure ornament; the figures, which form so large a part of the decorations of their temples, having never been adopted to celebrate the achievements of their heroes or rulers. No isolated statues, such as were executed by Roman and Medieval sculptors in Europe exist. The Mahomedan influence was against it, and the carvers of figures on the temples had become incapable of original effort, at the time the great civil works in architecture of the Hindus were constructed.

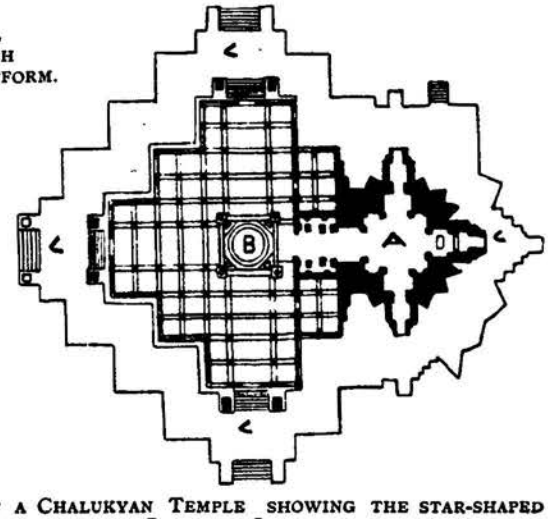
HINDU PAINTING.

Such painting as exists in Hindu buildings is purely ornamental. The art appears to have failed to appeal to their peculiar genius, which craving for the concrete, sought expression in sculpture rather than in painting. The traditions of the painters of Ajanta died with them, and in the centuries which have passed, since those works were completed, no sign of a revival has shown itself.

CHALUKYAN STYLE.

The Chalukyan Kingdom rose into importance about the year A. D. 500, and occupied a strip of territory extending across India from east to west, and as far north as Dowlatabad, and southward as Mysore. The Kalyan kings, who founded the Chalukyan kingdom, are supposed to have originally sprung from the solar race of Rajputs, but there seems to be a certain amount of evidence that they were Jain by religion. It is suggestive that the rise and fall of the Jaina religion were nearly coincident with the sway of the Chalukyans. Like all dynasties in Central and Northern India, the Chalukyans suffered eclipse in the Dark Ages that intervened between A. D. 750 and 1000, when many of their earlier buildings were destroyed. Those that survived, or were built subsequent to this cataclysm, were nearly all pulled down by the Mahomedan conquerors of the Deccan. The chief specimens are consequently to be found on the western side of the Peninsula, in the neighbourhood of Mysore. As in Jaina and Hindu religious buildings, their temples consist of a sikra or cell to hold the image of the Saint or God, with a porch or hall in front, supported upon pillars. The cell differs in plan, however, from all other styles, being star-shaped, of twenty-four sides, instead of square. These projecting sides are not obtained by increments added flatly to

A. CELL
B. PORCH
C. PLATFORM.



PLAN OF A CHALUKYAN TEMPLE SHOWING THE STAR-SHAPED CELL OR SIKRA.

a square, but are based upon points touching a circle. There are four principal faces, however, to these sikras or cells larger than the others, three occupied by niches, and the fourth by the entrance. The sikras, instead of rising in a tall curvilinear tower, capped with an

Amalaka, as do those of the Jains and Indo-Aryans, are straight lined cones, and rise in steps to their apexes. Their details, however, are as dissimilar from the storied spires of the Dravidian temples and gateways, as they are from those of the Northern temples.

The porches are open, the roof being supported upon columns spaced equidistantly over its floor, without either the bracketting arrangements of the Southern, or the domical forms of the Northern styles of Hindu Architecture. Situated locally half-way between the Dravidian and Northern styles, the Chalukyan borrowed occasionally a feature or form from one or the other, but never to such an extent as to entirely obliterate its individuality, as a separate and distinct style of architecture.

One feature distinguishes the Chalukyan temples from any other ancient Hindu style. It is the use of pierced stone screens in the windows, which are highly ornamental and appropriate, and give a richness of texture to their façades, by creating a diaper of intensely black spots in panels, over the upper portions of their walls, close to the deep cornices, which overshadow and protect them. Their columns approximate more nearly to the Buddhist ideal than to that of the Jains or Dravidians; they display a fine feeling for outline and an appreciation of the value of contrasted plain and decorated surfaces. The Chalukyan buildings are pre-eminent for this quality, and for the artistic combination of horizontal and vertical lines, in the ornaments and outlines of their elevations. They are built of stone, which in the neighbourhood where most of the temples are found, is of a pleasant creamy colour, and of so close a grain as to take a polish like marble. Some of the plain round pillars in their buildings appear as if turned in a lathe, so finely are they wrought; while the carving, which forms the sole method of enriching them, and the fabrics they support, is executed with an elaboration and patient industry, marvellous even in India, where mere labour counts for so little.

The finest specimens of Chalukyan architecture are to be seen at Buchroputty, Warangal, Somnathpur, Baitlur, Hallabid and Mysore. These are all of the earliest period when the style was less tainted with Hindu influence than it afterwards became.

Chalukyan Sculpture.

Although almost as minute and elaborate as that of the Jains, the Chalukyan sculpture shows more artistic taste. While on the one hand it is more realistic, some of the representations of animals being excellent in drawing, character, and proportions, it is on the other, fuller of riotous fancy than any Indian style, except perhaps the Dravidian. The five-fold friezes, which are peculiar to this style, often show both qualities. The friezes are composed of five bands of ornament, placed one above the other, each band consisting of the representations of one animal. The lowest is composed of elephants, the second of lions, the third of horses, the fourth of oxen, and the fifth of a bird which somewhat resembles the sacred goose and swan of Brahma. Many of these bands of animals are exceedingly spirited, and are purely naturalistic in treatment; but in others they are transformed into mythical beasts of composite structure, terminating, or beginning in elaborate foliated ornaments.

The types of ornament used for the decorations of temples were freely copied in civic buildings, and are to be seen to the present day in the sandal wood and ivory carvings of Mysore, which differ from any other produced in India.

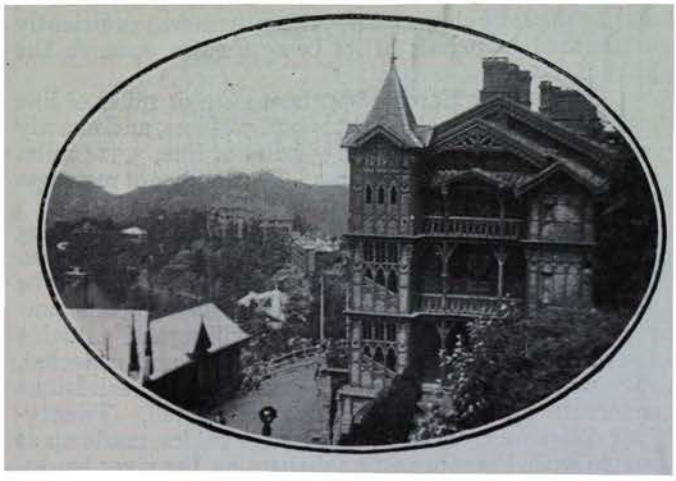
The art of painting does not appear to have been practised by the Chalukyans, or if it were, no trace of it has come down to us in ancient art, nor does its tradition survive in that of the moderns.

(To be continued).

History of the Telegraph Department.

GENERAL.

In the first year of the reign of Her Majesty Queen Victoria, the first practical electric telegraph line was patented in England by Messrs. Cooke and Wheatstone, and was opened for public use between Paddington and West Drayton on what is now the Great Western Railway. Two years later, in May 1839, Dr. William



Telegraph Office, Simla.

O'Shaughnessy, an Assistant-Surgeon on the Bengal Medical Establishment of the Hon. East India Company's service, commenced experiments with reference to the transmission of signals by electricity. To quote his own words he erected in the Botanical Gardens near Calcutta "the first long line of telegraph ever constructed in any country. The line was twenty-one miles in length, embracing 7,000 feet of river circuit. The experiments performed on this line removed all reasonable doubts regarding the practicability of working electric telegraphs through enormous distances, a question then and for three years later disputed by high authority and regarded generally with contemptuous scepticism." Being thus firmly convinced himself of the possibility and practical utility of electric telegraphy, he endeavoured to bring the authorities round to his views, and the next ten years were occupied with endless experiments and equally numerous reports to the Government of Bengal and to the Court of Directors. It speaks volumes for his energy and perseverance that he at last gained his end, the more so as these experiments were all carried out in his leisure time. During the course of his experiments he proved that it was unnecessary to use a return wire, but that the earth could take its place. He also proved that by increasing his battery power, or the diameter of his wire, or by making his receiving instrument more sensitive, he could very greatly increase the distance over which he could work.

It was not until 1850 that permission was accorded to Dr. O'Shaughnessy to erect an experimental line half overhead and half subterranean thirty miles in length. This line was commenced early in 1851 and connected Calcutta with Kedgeree, and by the 30th March 1852 eighty-two miles had been opened for public business. There were offices at Calcutta, Moyapur, Bishtopur and Diamond Harbour opened in October 1851, and Kedgeree and Kookrahutty were opened in February 1852. The success of the line was immediate, and in December 1851 the old semaphore signalling service along the river was finally abolished.

Though this line was of no great length, yet it merits special attention, as it was the first telegraph line erected in a tropical climate exposed to conditions utterly unlike any other line had to experience. The Gangetic delta is exposed to violent storms and cyclones accompanied by torrential rain; during the south-west monsoon much of the country is under water; while in the cold weather dense fogs prevail during the night and early morning. The conditions are very prejudicial to good telegraphic communication, and it is interesting to note how they were met. Dr. O'Shaughnessy had no European experience to guide him, and his originality and indomitable perseverance were tried to the full and triumphed in the face of difficulties that are even now found formidable. The results of his experiments led him to believe in very heavy iron conductors, welded together, and laid in the ground buried in a cement of melted rosin and sand, and the quality of the work can be imagined from the fact that when some of this underground line near Calcutta was dug up in 1888, not only the iron but even the Madras cloth in which it was wrapped were found to be in a perfect state of preservation after being buried 37 years! The great obstacles to perfect communication were the rivers, and numberless experiments were conducted, in the course of which Dr. O'Shaughnessy achieved the remarkable feat, as it must be considered, of signalling across the Hughli without a metallic conductor. The battery power required was, however, enormous and too expensive for practical purposes, and he did not achieve complete success until he received some gutta-percha-covered copper wire from England.

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Though this gave him easy communication, the problem yet remained how this fragile thread was to be protected from the effects of the climate and from mechanical injury when lying in the bed of a river. Many means were tried, including laying parallel guards of iron rods or wires fastened at intervals by transverse bands or loops, and in fastening the cable to a heavy chain. In the Hughli the danger of dragging anchors fouling the cable was ever present, and in addition to the actual cable crossing being indicated by beacons, guard boats and notices, signal guns were fired as ships approached the crossings. Dr. O'Shaughnessy, after trying all patterns of instruments in use in England and America, discarded them in favour of a simple galvanometer coil with a horizontal needle, delicately pivoted, and provided with a light pointer, which he found more suitable, and more readily replaced.

Very shortly after the completion of this line an interesting example of the value of rapid transmission of news occurred, which is thus described by Dr. O'Shaughnessy: "The *Rattler*, steam frigate, bringing intelligence of the first operations of the war (Burma) had not passed the flagstaff at Kedgeree on the 19th April 1852, when the news of the storming and capture of Rangoon was placed in the hands of the Governor-General in Calcutta, and posted on the gates of the Telegraph Office for the information of the public."

The value of electrical communication was fully recognised by Lord Dalhousie who, in April 1852, in forwarding Dr. O'Shaughnessy's report to the Court of Directors, recommended the immediate construction of lines from Calcutta to Peshawar, Calcutta to Bombay, and Calcutta to Madras. He also recommended that Dr. O'Shaughnessy should proceed to England to arrange for the necessary stores, and that he should be granted a bonus of Rs. 20,000, and acknowledged the value he placed on Dr. O'Shaughnessy's services in the following terms: "I believe I am doing no more than expressing the universal *opinion* of the community when I say that for them (the results obtained) the Government of India is indebted to the ability, the undaunted energy, the perseverance and skill of Dr. W. O'Shaughnessy. He has accomplished the whole unaided within a comparatively short time, in the midst of other important duties and without any remuneration whatever." Thus after 12 years the unceasing efforts and perseverance of Dr. O'Shaughnessy met with their reward, and the prompt action of Lord Dalhousie met with equal promptness on the part of the Court of Directors who sanctioned all the proposals. This promptness, which is thus alluded to by Dr. O'Shaughnessy, "such rapidity in the despatch of an important measure is perhaps without parallel in any department of Government," had far-reaching results; for had the question been discussed in a more leisurely fashion, the telegraph would not have been the valuable instrument it proved when five years later the Mutiny burst over the land.

Dr. O'Shaughnessy went to England in May 1852 and by the November of that year had made himself acquainted with the state of telegraphy in England and Europe. He had enlisted sixty artificers who were sent to Warley for training and had also placed contracts for the stores he required. He also drew up a manual for the guidance of employees of the department, a document which was the forerunner of the many codes of instructions now in force. From the time Dr. O'Shaughnessy returned from England in July 1853 the Telegraph Department may be considered to date as a regularly organised department of the State, and its progress since then has been rapid and continuous. The programme of work was a heavy one. Means of communication and transport were few and slow. The staff were untrained and had to be taught their work. Numerous rivers, unbridged and with ill-defined banks, had to be crossed either by spans or cables, and unhealthy jungles had to be traversed. Construction commenced in the autumn of 1853 and by the end of March 1854 connection with Agra, 800 miles from Calcutta, had been established. The first message from Bombay to Calcutta was sent in August 1854 and by the end of November the Bombay Government reported that communication with Calcutta had been completed. The lines from Agra to Peshawar and from Bombay to Madras were completed shortly afterwards, and by the 1st February 1855 the system was sufficiently established to permit of its being thrown open to the public.

On the 31st March 1854 there were 91 miles of line and 91 miles of wire and cable and 7 offices, and exactly one year later there were 3,255 miles of line, 3,314 miles of wire and cable and 48 offices. The number of messages had risen in the same time from 23,430 to 64,810.

The remarkable rapidity with which these long lines were constructed was largely due to the help given by the local administrations under the orders of the Government. Every one was interested in this new means of communication, and gave willing and valuable assistance. Wooden supports were cut and collected, materials were distributed, granite and sandstone monoliths and masonry pillars were erected. Twenty-four rivers were crossed with massive cables, made up as a rule with the roughest appliances on the river banks. Forty rivers were crossed by spans. A single heavy iron wire weighing 1,200lbs. a mile was used, with various kinds of insulators and brackets.

It was soon found that the climate and the attacks of white ants rapidly affected the wooden supports, and first cast-iron sockets and subsequently tubular iron standards replaced them.

In 1856 Dr. O'Shaughnessy again went to England and while there received the well-deserved honour of knighthood. The main object of his visit was to arrange for the introduction of Morse instruments which had been proved to be superior to the needle pattern. Even in 1852 the superiority of the Morse was admitted, but there were so many patterns in the market, that exhaustive trials had to be made in India to determine which were best suited for the climate and tropical conditions. Arrangements were made during this visit for the recruitment of officers specially trained in Morse signalling at Gresham House. There were 74 of these "Morse Assistants," the first batch of whom arrived in India in 1857 and were sent to Bombay, Madras and Calcutta where they gradually introduced the Morse. The Morse instrument as first introduced indented a tape with dots and dashes which were subsequently transcribed, one advantage claimed being that

TELEGRAPH OFFICE, CALCUTTA.

there was a record of the signal sent and thus greater accuracy would result. The operators soon learnt to distinguish the sounds of the signals, but to read by sound was at that time held to be objectionable. In fact, Sir W. O'Shaughnessy thus replied to the suggestion made by one of the Morse Assistants, who subsequently proved himself one of the ablest of the Directors General the Department has had, Sir A. J. Leppoc Cappel, "receiving by ear is in my opinion almost as objectionable as by the eye with the needle, and defeats the real object with which the Morse has been introduced into this country." Two years later, however, reading by sound was firmly established, and we find Sir William admitting "the saving effected by discontinuing the use of the tape amounts to at least 30,000 rupees per annum, while two-fold greater accuracy is obtained in our work."

During the absence of Sir W. O'Shaughnessy in England the department was controlled first by Lt. Chauncey and subsequently by Captain Stewart, R.E., and up to May 1857 satisfactory progress was made in every direction, 980 miles of line being added. The Mutiny broke out in May 1857 and the peaceful expansion of the department was immediately stopped. The first section of the line destroyed was between Meerut and Delhi, and the same day Mr. Charles Tod, the Assistant in charge at Delhi, who had gone out on the Meerut road to ascertain the cause of the interruption, was murdered. Two lads, Pilkington and Brendish, remained in the office and telegraphed thence to Umballa incoherent accounts of the murder and pillage taking place in Delhi. Before they had to seek safety in flight they had given the alarm, which being flashed across the Punjab, enabled the authorities to take timely steps to disarm the disaffected troops. "The value of that last service of the Delhi office," says Sir W. O'Shaughnessy, "is best described in the words of the Judicial Commissioner Mr. Montgomery—'THE ELECTRIC TELEGRAPH HAS SAVED INDIA'!"

The lines between Agra and Indore, Agra to Cawnpore, and Agra to Delhi were speedily and completely destroyed—the posts being used as firewood, and the wire being cut up for slugs. The lines between Allahabad, Cawnpore and Lucknow were completely destroyed. The line, however, between Delhi and Peshawar was maintained intact, and, as can be readily imagined, proved invaluable.

As soon as possible the work of repair and reconstruction was commenced, but it was eight long months before communication was re-established between Bengal, the North-West Provinces and the Punjab. The work of repairs was carried on under conditions of great difficulty and danger, but the spirit which animated the whole English community was not wanting in the telegraph officials, who never slackened their endeavours till the long slender wires again stretched their delicate network over the country. Space does not permit of any detailed description of the telegraph operations during this period of stress, but the following extract from Sir W. O'Shaughnessy's report is full of interest: "By far the most interesting occurrence in the history of the restoration of our lines is found in the dashing exploit of Captain Stewart, Mr. Harrington, Mr. McIntyre, and Mr. Devin in running up a flying line from Cawnpore to Lucknow in the last advance of the Commander-in-Chief in that city. The cool intrepidity and ready resources displayed by Captain Stewart on this occasion gained for him the hearty applause of the whole army. His report is one of the best proofs yet given of the value of the (Telegraph) Department in military operations, as well as in its political and civil bearings." The department not only lost many hundreds of miles of material, but suffered severely through the murder of many of its officers, and when the Mutiny had been finally quelled, Sir W. O'Shaughnessy found that traces of the terrible strain were apparent in the temporary loss of *morale* which was evident.

The services rendered by its members are commemorated on a granite obelisk subscribed for by the Department and erected in front of the Delhi Telegraph Office in 1902. Of the two Delhi signallers, Pilkington died not many years after the Mutiny, but Brendish received a pension of full pay; and received the medal of the Victorian Order when he stood by the obelisk when it was unveiled by Lord Curzon.

Having recovered from the effects of the Mutiny, the expansion of the telegraph system was pushed on apace, and during the next three years lines were constructed down the East and West Coasts of the Peninsula. Rangoon was connected with Calcutta *viâ* Dacca and the Arakan coast. Karachi was linked up with Bombay and Lahore, and extensions to large cities and trade centres on the main routes were erected.

During 1857, some officers of the department were sent across to Ceylon and by the end of the year lines extended from Galle to Colombo and Kandy and northwards to Manaar. In September 1858, a gutta-percha-covered cable was successfully laid across the Palk Straits. This cable was 25 miles long, and was laid by Mr. Wickham in bad weather with a native sailing vessel. Sir W. O'Shaughnessy says: "The operation was as difficult, the line as long, the navigation at least as dangerous, as that of placing the cable across the Straits of Dover, for which a squadron of steamers and costly machinery were employed. Mr. Wickham performed his task under sail, and with no other apparatus than the rude windlass of a native vessel." This cable lasted well until 1867 when it failed and was replaced by one of a later type.

Sir W. O'Shaughnessy left India in June 1860, and shortly afterwards retired from the service and died at Southsea in January 1889. So passed from India one of the most interesting personalities of the day, and one whose services were of Imperial significance, and deserved more public recognition than has ever been accorded. The sole memorial of him in India is a portrait, presented by his eldest daughter, which hangs in the Signal Room of the Calcutta Telegraph Office.

At the close of this formative period of ten years when Sir W. O'Shaughnessy left India, there were 11,000 miles of line and 150 offices. The total number of messages dealt with in India, Pegu (Burma) and Ceylon was 202,428. The total revenue (excluding State messages) was Rs. 4,23,991 and the expenditure Rs. 17,20,427.

Major (afterwards Colonel) Douglas, R.E., succeeded Sir W. O'Shaughnessy, and he was the first to hold

the title of Director-General. During his time there was a steady expansion of the system, till in 1865 when he retired there were 13,390 miles of line, 172 offices and a revenue of ten lakhs of rupees.

In January 1860 what is now known as the "Check" Office was instituted by Sir W. O'Shaughnessy, and for some time after its establishment, considerable difficulty was experienced, when tracing delays, owing to the uncertainty of the ordinary method of expressing time, especially when near noon or midnight consequent on the risk of substituting A.M. for P.M., or from their omission. This difficulty was got over by counting time from midnight to midnight, the day being considered as consisting of 24 hours commencing at midnight. The following year the introduction of "Telegraph" or "Madras" time was effected. Madras sun time was chosen, as the longitude of that place is about equidistant from Calcutta and Bombay. In addition the fact that there was a Government observatory there ensured the correctness of the time given. The correct time was signalled throughout India from Madras at 8 o'clock every morning.

In 1860 a distinct stores branch was opened and Lieut. Mallock, who eventually became Director-General in 1889, was placed in charge. With it was associated the workshop.

With the increasing use of the telegraph for commercial purposes, it was soon discovered that it was imperative to insulate all the lines, and in many cases, lines had to be reconstructed. New patterns of insulators and instruments were introduced, several of them being devised by the Director-General. A reorganization of the department with increased pay and improved prospects was sanctioned in 1861. A new system of accounts was also introduced, which at first was by no means successful. Although considerable progress was made during the five years ending with 1865, yet it is on record that there were numerous complaints from Chambers of Commerce and in the public press against the inaccuracy and delays in commercial messages.

Colonel D. G. Robinson succeeded Colonel Douglas in 1865 and at once inaugurated his vigorous administration by the introduction of many needed reforms. He introduced a complete reorganization of the department in all grades. Salaries were increased, promotion regulated, certain privileges were granted to the signalling staff, who were paid according to qualifications, and were thus given a strong incentive to improve themselves by private study. A new tariff was introduced, and the compulsory use of stamps in lieu of money payment for telegrams was prescribed.

In 1865 through communication with England was first established. The route was *viâ* Turkey and the tariff was £5 for 20 words. Delays and errors in messages were so great as to be the subject of universal complaint, with the result that in 1866 a Parliamentary Select Committee was appointed to take evidence on East Indian communications. The result was the establishment of two additional routes: that known as the Indo-European, through Persia, which was opened in January 1870; and that *viâ* Suez and Aden to Bombay in March of the same year. The following January, 1871, Madras was connected to Penang by a cable.

Col. Robinson left India on two years' leave in 1866, and during his absence the department was administered first by Colonel Glover, R.E., and subsequently by Major Murray. One of the most important operations carried out in 1866-67 was the laying of a new cable between India and Ceylon. It was laid by Captain Stiffe, Commander of H. M. S. *Amberwitch* and Engineer of the Indo-European Telegraph Department, assisted by Captain Mallock. The cable was laid across the Palk Straits from Talamanaar to the island of Rameswaram, near the celebrated temple. A land line of 10 miles was erected to the village of Pamban, whence two cables, each a mile and a half long, completed the communications to the mainland. This cable was insulated with Hooper's core and lasted well. Another very important work was doubling the line between Bombay and Karachi, which involved much difficulty, passing as it does through the Runn of Cutch and the Sind Deserts. Other extra wires were erected along the main routes, and new lines were constructed along the railways. At the end of March 1867 there were 11,826 miles of line carrying a single wire; 1,332 carrying two wires; 11 miles carrying three wires; 198 carrying four; and 4 carrying five wires.

During his stay at home Colonel Robinson made arrangements for regularly recruiting the staff with well-educated young gentlemen, who received nominations from the Secretary of State. After passing a preliminary examination they received a special technical education mainly under the eminent Engineer and Electrician, Sir William Preece, and eventually came out to India under a ten years' covenant. Between the years 1868 and 1871, seventy-two officers were appointed, the last one now remaining in India being Sir Sydney Hutchinson, *Kt.*, the present Director-General.

When Colonel Robinson returned to India in 1868, he brought with him two instructors who travelled from office to office giving lectures on technical subjects to the staff. One of them, Mr. Louis Schwendler, remained in India, and was appointed Electrician to the Department. It is difficult to overstate the importance and value of the services he rendered. He introduced a regular system of line testing and localization of faults and drew up a most valuable code on the subject. He also introduced duplex telegraphy on the Indian lines. His researches gained him a European reputation as one of the most eminent telegraphists of the day; and he possessed in addition an enthusiasm and powers of imparting knowledge that made him a most successful teacher. To him, more perhaps than to anyone else, Calcutta is indebted for the magnificent Zoological Gardens at Alipore, where a granite obelisk, with a medallion portrait, has been erected in appreciation of his services.

Closely associated with Mr. Schwendler in his scientific work was Mr. (now Professor) W. E. Ayrton, who did not remain long in the Department, and whose scientific attainments are world renowned.

In 1870 the first attempt to open a "combined" postal telegraph office was made at Mussoorie and Naini Tal, and proved a complete failure. Colonel Robinson thus writes on the subject: "The fact is the two duties are totally dissimilar and to endeavour to combine them is as extravagant as to yoke together a race

horse and a cart horse." As mentioned some time back, the proposal to read Morse signals by sound was absolutely condemned, the proposal being made in advance of its time. This failure of combined offices and Colonel Robinson's emphatic condemnation of the principle is an even more striking instance of the same thing. India had, however, to wait for thirteen years before the system of "combining" small offices was introduced.

In 1868 the system of training British soldiers in telegraphy was introduced, and the offices at Kamptee, Muttra, and Ferozepore were manned entirely by military Telegraphists, while employment was found for other soldiers in various offices. Their great value was first proved in 1873-74 when there was a famine in Tirhoot and the resources of the Telegraph Department were strained to their utmost. In order to cope with the requirements, 541 miles of temporary line and 13 offices were opened in 35 days. Had it not been for the military telegraphists who were utilized to set free civilians at various offices, it would hardly have been possible to meet the sudden demands made on the signalling staff.

Another direction in which there was urgent need of reform was the design and manufacture of the material used for the lines, and Captain Mallock was employed in England on this duty. He brought to bear on this subject a thoroughly practical knowledge of the requirements for India, together with great energy, and it is to him the Department is indebted for the high class of material now generally in use. It was at this time stranded steel wire for use at river spans was introduced, by which means the constant failure of many river cables was obviated. By the use of specially constructed high masts, or by taking advantage of precipitous banks, many very long spans were erected. In 1873 a span was erected across the Kistna river at Bezwada in the Madras Presidency which measured 5,070 feet from post to post. This span is still in existence, and is probably the longest in the world.

In 1868 India was for the first time formally represented at the International Telegraphic Conference held at Vienna, and has since taken an important part in all subsequent conferences.

Major-General Robinson retained charge of the Department till his death in 1877, and the progress in all branches of the service was continuous and unbroken. During his tenure of office the line and wire mileage had increased from 13,258 miles of line and 14,137 of wire to 17,232 of line and 39,113 of wire. The number of offices increased from 174 to 222, and the number of messages sent had increased to considerably over a million. The value of the messages had risen from Rs. 9,06,376 to Rs. 23,71,359. In the same period the revenue had risen from Rs. 9,26,210 to Rs. 26,78,578, and in 1877 for the first time in its history the net revenue, excluding interest on capital, showed a profit of Rs. 19,995.

It was a matter for deep regret that Major-General Robinson, to whose commanding administrative abilities this gratifying result was due, did not live long enough to report to the Government he had so faithfully and zealously served, that the success he had striven for so ably had at length been achieved.

Major-General Robinson was succeeded by Colonel R. Murray who had been with the Department since the days of the Mutiny and had proved himself an able coadjutor to his distinguished chief.

The first of the long extensions on the frontier was erected by Mr. Pitman during the cold weather of 1876-77. It consisted of a line from Jacobabad across the Sind desert to Quetta and Khelat *viâ* the Bolan Pass. This line proved invaluable during the Afghan War.

In the year 1877-78 for the first time since the establishment of the Department the receipts more than covered the working expenses. The following year there was a surplus of Rs. 6,08,246, which included a loss of Rs. 18,162 sustained in working the Ceylon system of telegraphs.

Owing to the large number of "nomination" officers engaged in the years 1868 to 1871, a serious block in promotion had been caused, and in the latter year further recruitment had been stopped. In 1877, however, it was decided that more officers were required, and an examination was held for seven appointments. The successful candidates underwent training at the Royal Indian Engineering College at Coopers Hill, and arrived in India in November 1878 and January 1879. Since then up till the date the College was closed in October 1906, officers have been trained there and sent out yearly. From time to time selected officers have also been appointed from England, and from the Engineering College at Rurki.

On the 1st July 1880, the Ceylon Telegraphs, which had been administered by the department since 1869, were re-transferred to the Ceylon Government, under which administration they have since remained.

In 1881 the department lost two officers whom it could ill spare in Mr. Schwendler whose services have already been mentioned, and Major Eckford. The latter had been employed chiefly in connection with the stores and workshops, and had done much in forming and administering these very important branches.

The following year saw the introduction of the Licensed system regularizing the rules under which railways and other systems outside the Imperial Telegraph Department were permitted to undertake the transmission of paid messages for the public. The monopoly of despatching messages on payment is strictly enforced, but it was decided by the Government of India that in the interests of the senders of telegrams, railways should be encouraged to carry public telegrams, "to as great an extent as is compatible with the proper use of their telegrams for the primary use of railway traffic." Officers in canals and other licensed systems as well as railways were authorized to accept messages from the public and to retain the charges. It was also laid down that there should be but one public telegraph message system throughout India. Col. Murray retired from the Department in June 1883 and was succeeded by Mr. (now Sir) A. J. Leppoc-Cappel, who was the senior of the "Morse Assistants," whose services had been characterized throughout by marked ability. Under his management the Department made great progress.

The year 1883 witnessed the most radical change yet made in the department when what is now known as "combined" offices were introduced. Where the

telegraph message revenue was not sufficient to justify departmental offices being opened, the cheaper agency of the Postal Department was employed; and the work was carried out by Postal officials (trained for the purpose by the Telegraph Department), in addition to their postal duties. The whole scheme was carefully worked out by Mr. (now Sir Albert) Leppoc-Cappel and Mr. (now Sir Frederick) Hogg, the two Directors-General. The system has been a success from the first; the two departments have worked in perfect accord, each placing its resources at the disposal of the other, and the result has been the extension of the telegraph into parts which it could otherwise never have reached, thus aiding mercantile enterprise and earning a large revenue for the Government. In addition to opening telegraph offices in many Post Offices, the further change was introduced that every Post Office was authorized to accept messages for transmission to the nearest telegraph station.

So early as 1875 a private line, worked with dial instruments, was supplied in Bombay for the Peninsular and Oriental Steam Navigation Company, and shortly after similar lines were supplied in various parts of the country. The invention of the microphone in 1877 and the rapidity with which it was improved and combined with the telephone, led to particular attention being given to these instruments. After a series of trials an instrument invented by Mr. W. P. Johnston, the Electrician, was adopted, and installed in the majority of the private lines. In 1881 the Government decided that private enterprise in telephone business should be encouraged, and licenses were granted to the Oriental Telephone Company, Limited, to establish exchanges in Calcutta, Madras, Bombay and Rangoon. In 1882 an exchange was opened by the Company in Karachi. The rules regulating the grant of these licenses were revised in 1883. While Government does not compete with the licensed telephone companies, such connections as may be required for Government officials are usually supplied by the Telegraph Department. In 1905 Local Governments were permitted to use any agency they preferred for connections they require.

Following on the annexation of Upper Burma a heavy strain was thrown on the resources of the department to meet the demands for telegraphic communications required. It was found that the existing telegraph lines and cables were practically useless and all had to be reconstructed.

Sir Albert Leppoc-Cappel was succeeded in 1889 by Col. H. Mallock, who held charge till April 1890.

In 1887 the use of hard-drawn copper wire, with which many experiments had been made on the long main routes was decided on. Its main advantage over iron wire is that it is practically free from electro-magnetic inertia, which is the great obstacle to long distance telegraphy.

Up to 1888 the only communication with the Province of Burma was by a line running down the Arracan coast as far as Taungup whence it crossed the hills into Prome. Following on the annexation of the upper province, it was found practicable to erect a line through the valleys of the Yu and Chindwin rivers and thence northward *viâ* Tamu and Manipur to Assam. This line runs through a country, parts of which were almost unknown at the time of its erection. It proved of much value during the rebellion at Manipur in March 1891, when the Chief Commissioner of Assam and many other officers were murdered. In this outbreak the Department lost two of its officers, Mr. W. B. Melville, the Superintendent of the Assam Division, and Mr. James O'Brien, signaller, who were both murdered at Myankhoung, near Manipur. This line has proved a most valuable alternative route into Burma, and direct communication is maintained between Calcutta and Mandalay over about twelve hundred miles of as difficult and diversified a country as can well be imagined.

In 1878 Mr. J. W. Duthy, an officer of the Department, was lent to the Kashmir State for the purpose of constructing telegraph lines, which were subsequently handed over to the State. Native management however was such that the line could not be depended upon. In 1891 when the British frontier was extended to Gilgit, a reliable line was required, and the Telegraph Department was called on to undertake the task. The problem was a most difficult one, as the lines had to be maintained in good working order over the Tragbal and Burzil passes (the latter 13,500 feet above sea-level). Not only had the line to be of sufficient strength to resist the snow, but a route had to be chosen clear of the track of avalanches. To admit of the line being properly maintained and repairs effected, stations had to be fixed at frequent intervals. In these stations the staff pass the winter entirely isolated from the outer world. Mr. H. S. Olphert was put in charge of this very important work and for four years he and his staff were employed. Each working season the damage sustained during the preceding winter was repaired, and the experience gained utilized in improving the alignment, till by 1894-95, when trouble broke out in Chitral, a magnificent line existed from Murree in the Punjab Hills to Gilgit, nearly 400 miles in length, which proved of the greatest value. The maintenance of the line in winter still presents the greatest difficulty and danger. On the 14th January 1897 a repairing party was swept away in an avalanche with a loss of five lives. Again on New Year's Day, 1900, eight lives, including Mr. Scott, a signaller, were lost. Such accidents cannot be guarded against, and the lives thus lost are a portion of the price to be paid for the protection of the North-West Frontier.

Almost as difficult a task was the extension of lines on the Eastern frontier into Siam, though the difficulties encountered was of an absolutely different nature. In 1884-85 the Burma lines were extended from Tavoy down the valley of the Tenasserim river to the Siamese frontier on the road to Kanburi and Bangkok. The valley of the Tenasserim is in dense forest, practically uninhabited, and the sickness and fever that more than decimated the working parties practically stopped communication. The difficulties encountered in transport and cutting a track through the heavy forest were almost insurmountable, and it took several years before the line could be considered reliable. A shorter line which did not present equal difficulties was also erected from Moulmein to Myawaddy to meet the Siamese line from Raheng.

In 1894-95 a further extension on the Eastern frontier was made to Kentung, 197 miles east of Mone (the most easterly station in the Southern Shan States). A line of temporary material, uninsulated, was run up in May to July. Communication was maintained on this line during the rains with vibrating sounders. The work was of the most arduous nature, greatly due to the time of year at which it was undertaken. The staff suffered greatly from sickness, and Mr. G. Brace, Sub-Assistant Superintendent, died of fever contracted on the Salween river. This line was made permanent the following cold weather.

Sir William Brooke, K.C.I.E., retired in April 1895, having held charge of the Department since 1890. He, like his distinguished predecessor, Sir Albert Leppoc-Cappel, K.C.I.E., was one of the "Morse Assistants." Like his predecessor, he displayed exceptional merit and ability from the date he entered the department, a promise amply fulfilled by the success of his Administration.

The lines of the Department in Bengal, Eastern Bengal and Assam suffered greatly in the earthquake of the 12th June 1897. Two cables across the Brahmapootra river at Jogigopa, near Goalpara, and three cables across the Megna were destroyed, as also were the two large spans. A mast 68 feet high at the Teesta river crossing near Kaunia sunk into the ground till only 2 feet of the top was visible. Widespread damage was also done to the land lines and to offices, which disorganized the usual traffic arrangements for the time being. It was not possible to lay new cables over the Megna till the 29th of June nor on the Brahmapootra till the 17th of July, owing to the state of the rivers, and offices had to be opened on the banks of those rivers at which messages were transferred by boats.

In January 1899, Mr. C. H. Reynolds, C.I.E., who had held charge of the department since 1895, retired. He was the senior of the "nomination" officers, and entered the department in 1868. His service was one of great brilliance, his administration of the department was most successful, and by his retirement Government lost an exceptionally capable officer.

He was succeeded by Mr. C. E. Pitman, C.I.E., whose characteristic energy at once manifested itself by the introduction of various improvements. Amongst the most notable of these was the introduction of the Wheatstone automatic instruments on the Calcutta-Madras, Calcutta-Bombay and Calcutta-Rangoon circuits.

In May 1900 the Department came to the aid of the Great Indian Peninsular Railway by manning their offices on the occasion of a strike among the railway signallers, and thus prevented much inconvenience to the public.

Mr. Pitman was succeeded in May, 1900, by another "nomination" officer, Mr. F. G. Maclean, who in this, the Jubilee year of the Department was able to report that the earnings had exceeded those of any previous year by Rs. 5,70,000. Also that with the exception of the years 1897-98 (when owing to the disturbances on the North-West Frontier, the revenue from State messages was abnormally high), the percentage of net revenue on Capital outlay was the highest on record. An interesting evidence of the growth of the Department is afforded by the following figures :—

Miles of line had increased	100	per	cent.	in	15 years.
,, ,, wire ,,	,,	,,	,,	,,	13 ,,
Number of offices ,,	,,	,,	,,	,,	9 ,,
Number of private messages ,,	,,	,,	,,	,,	10 ,,
Value of ,, ,,	,,	,,	,,	,,	13 ,,
Total number of paid	,,	,,	,,	,,	11 ,,
,, value ,, ,, ,,	,,	,,	,,	,,	14 ,,
,, receipts ,, ,, ,,	,,	,,	,,	,,	14 ,,
Working expenses	,,	,,	,,	,,	16 ,,

Early in 1902 negotiations that had been in progress since 1899 were brought to a successful issue, and the tariff between India and Europe was reduced from 4*s.* (5 francs) to 2*s.* 6*d.* (31,25 francs) a word. At the same time the Government of India abolished the extra terminal charge on messages to and from Burma. In gaining this concession the Government of India undertook to guarantee the Indo-European and Eastern Telegraph Cable Companies' routes against loss for 10 years to a maximum extent of £45,000 a year.

The same year electric power was introduced into the workshops at Alipur, and a good many automatic and semi-automatic machines were installed at the same time. The Department made special arrangements in connection with the Delhi Coronation Durbar. Some 3,500 miles of wire for general and railway requirements and 138 miles of wire for local offices in and around Delhi were erected.

In 1903 a reorganization of both the Superior and Signalling and Upper Subordinate Establishments was sanctioned, which afforded some much-needed relief, and improvements in pay and prospects.

The same year saw the erection of another of the long frontier extensions from Nushki to Dalbandin, a line which runs through a desert, and the construction of which proved most trying to the endurance of the staff.

Wireless telegraph experiments, which had been started the previous year, were continued, and the practicability of establishing communication between Saugor Island and the Sandheads was proved.

In November 1903 Mr. F. G. Maclean retired and was succeeded by the present incumbent Sir Sydney Hutchinson.

The last three years have witnessed considerable progress. A printing system of telegraphing called Bandot has been introduced on some of the main circuits, and a world's record for distance with this system has been established. Wireless Telegraphic communication has been established between Diamond Island on the Burmese coast and Port Blair in the Andamans with a subsidiary station at Table Island. This latter has in consequence been converted into a Lloyd's signalling station. Wireless communication has also been established between Saugor Island and the pilot vessel at the Sandheads. Experience has shown that wireless work in the tropics have special difficulties to contend with, especially in the effect of atmospheric electrical discharges. These are so severe at certain times of the year as to disturb and occasionally prevent work being carried on. Communication was established with H. M. S. *Terrible*, *Renown*, and *Hyacinth* when they were in the Bay of Bengal. The *Terrible*

TELEGRAPH OFFICE, BOMBAY.

reported that she had read the Port Blair signals at a distance of about 300 miles.

The introduction of the 4-anna telegram gives the Indian public the cheapest telegram in the world, when the great distances such messages are carried are considered. Consequent on its introduction there has been an enormous increase in traffic and corresponding increase in the wires erected to deal with it.

In the end of 1904, the Director of the Traffic Branch, Mr. T. D. Berrington, was sent on deputation to China to arrange a new convention for the working of the land line between Burma and Yunnan, *vid* Bhamo, the former convention having expired in September 1904. Negotiations were satisfactorily concluded, and the revised convention came into force from the 1st June 1905. The rates between India and Burma on the one hand and China on the other were considerably reduced, the reduction ranging from 7 to 13 annas a word all round

Considerable preparations had to be made to cope with the increase of traffic expected in consequence of the tour of Their Royal Highnesses the Prince and Princess of Wales in India. Nearly 1,200 miles of extra wires were erected, and wires were duplexed and Wheatstone's instruments installed in offices where a press of traffic was expected.

From the 1st March 1905 the control of the Telegraph Department was transferred from the Public Works Department under which control it had been since 1870, to the new Department of Commerce and Industry.

The Superior Establishment now consists of the Director-General, Deputy Director-General and 2 Directors, 2 Deputy Directors, 4 Chief Superintendents, 31 Superintendents and 58 Assistant Superintendents.

The Upper Subordinate Establishment consists of two grades of Sub-Assistant Superintendents, 36 in the 1st and 37 in the 2nd Grade. The Signalling establishment consists of 20 Traffic Sub-Assistant Superintendents, 2,658 Telegraph Masters and Signallers, 19 Unattached List Warrant and Non-commissioned Officers and 627 Military Telegraphists. There are in addition 2,554 postal employés. Of lower subordinates employed on construction and maintenance of lines, there are 360 Sub-Inspectors and 1,900 line riders, line men and spare and cable guards.

Volunteering has always been encouraged among the signallers, and there are now 902, of whom 837 are efficient or extra-efficient. Grants for prize money are made annually.

From time to time legislative powers have been taken by the Government with regard to the Telegraph Department. The first Telegraph Act for India was XXXIV of 1854. The Acts which have since been passed are VIII of 1860, I of 1876, XIII of 1885 and XI of 1888. These Acts deal with the privileges and powers of Government in respect to telegraphs, their authority to grant licenses for the establishment of telegraphs, and the regulations under which telegraphs are to be worked. They provide and regulate the powers of the department to place telegraph lines and posts on public and private lands, and declare penalties for infringement of licenses, and all other offences connected with telegraph lines and the transmission of telegraph messages. Rules and regulations for the acceptance, transmission and custody of telegrams are published from time to time in the *Gazette of India* and have the force of law.

The Government of India have also legislated for the supply and use of electrical energy throughout India, in the Electricity Act III of 1903.

The following Table gives the Capital, Revenue and Expenditure of the department in decennial periods up to 1890, for 1895, 1900, and the last five years.

	Capital Account.		Revenue.			Expenditure.			Net Revenue (excluding Interest on Capital.)	
	Expenditure of the year.	Expenditure to the end of the year.	Messages.	Miscellaneous.	Total.	Construction (Capital).	Working (Revenue).	Total.	For the year.	To end of each year.
	£	£	£	£	£	£	£	£	£	£
1850-51	24,200	24,300	...	...	...	24,300	...	24,300	..	...
1860-61	333,210	6,493,660	624,520	3,140	6,227,660	333,210	1,394,040	1,727,250	−766,380	− 2,212,980
1870-71	665,080	23,632,340	1,244,777	45,893	1,290,670	665,080	2,417,440	3,082,520	−1,126,6770	− 10,204,610
1880-81	839,043	25,499,765	3,912,649	588,988	4,501,637	839,043	3,171,470	4,010,513	+ 1,330,167	− 9,380,687
1890-91	1,968,580	50,241,676	5,216,610	1,612,245	6,828,855	1,968,580	4,688,802	6,657,382	2,140,053	+ 5,707,995
1895-96	1,384,286	58,768,582	7,189,825	1,785,124	8,974,949	1,384,286	5,783,731	7,168,017	3,191,218	18,970,188
1900-01	3,259,337	70,923,416	9,460,119	2,038,563	11,498,682	3,259,337	7,084,371	10,343,708	4,414,311	37,023,939
1901-02	3,716,122	74,639,538	8,849,928	2,264,233	11,114,161	3,716,122	7,550,075	11,266,197	3,564,086	40,588,025
1902-03	4,929,177	79,568,715	8,807,474	2,433,408	11,240,882	4,929,177	7,934,730	12,863,907	3,306,152	43,894,177
1903-04	3,669,442	83,238,157	8,642,221	2,485,765	11,127,986	3,669,442	8,074,169	11,743,611	3,053,817	46,947,994
1904-05	4,122,392	87,360,549	8,929,399	2,668,498	11,597,897	4,122,392	8,203,715	12,326,107	3,394,182	50,342,176
1905-06	57,07,114	930,67,579	9,394,309	2,839,863	12,234,172	5,707,114	8,985,785	14,692,899	3,248,287	53,590,463

At the present time the total Capital stands at £6,204,505 of which £380,474 was added during 1905-06. The message revenue is £626,287 and from miscellaneous sources £189,324, giving a total of £815,611. The working expenses are £599,052.

The subjoined table gives for the same periods the line and wire mileage, number of offices and traffic dealt with, Inland, foreign and free, with the revenue and charges per mile.

	Number of Miles.		Number of Signal Offices.	Number of Messages.				Value of Messages.				Revenue & Charges per Mile.	
	Line.	Wire.		Inland.	Foreign.	Total.	Free.	Inland.	Foreign.	Total.	Free.	Revenue.	Chargss.
								£	£	£	£		
1851-52	82	82	6	..	..	..	..	6,000	..	6,000	..	72·29	64·82
1860-61	11,093	11,502	145	..	..	..	..	624,520	..	624,520	..	56·58	125·67
1870-71	13,534	22,834	197	510,341	67,020	577,361	3,873	973,978	327,567	1,301,545	45,350	95·37	178·62
1880-81	20,346	56,088	254	1,358,477	297,753	1,656,230	2,417	2,706,804	1,182,436	3,889,240	46,498	221·25	155·87
1890-91	37,070	113,763	949	2,917,464	489,636	3,407,100	2,561	3,509,395	1,664,611	5,174,006	45,839	184·3	126·59
1895-96	46,374	143,188	1,461	4,094,937	641,797	4,736,734	8,189	4,736,983	2,338,616	7,075,599	114,226	193·53	124·72
1900-01	55,055	182,179	1,939	5,549,395	899,977	6,449,372	12,906	6,710,842	2,557,051	9,267,893	192,226	208·85	128·67
1901-02	55,827	192,887	2,006	5,566,951	908,594	6,475,545	12,460	6,225,806	2,465,890	8,691,696	158,232	199·08	135·08
1902-03	56,830	200,533	2,051	5,840,658	901,436	6,742,094	12,105	6,523,706	2,101,052	8,624,758	182,716	197·79	139·62
1903-04	59,692	212,330	2,127	6,393,787	913,300	7,307,087	11,303	6,370,537	2,108,608	8,479,145	163,076	186·42	135·26
1904-05	61,684	227,749	2,189	8,082,904	1,015,441	9,098,345	10,960	6,427,748	2,382,861	8,810,609	118,791	188·02	132·99
1905-06	64,730	243,840	2,309	9,354,282	1,106,834	10,461,116	18,689	6,930,550	2,315,802	9,246,352	147,957	189	123·2

Of the offices 280 were departmental and 2,029 combined. Of the 243,840 miles of wire, 153,492 miles are in departmental use, the remainder is rented to canals, railways, etc. There are in addition 347·66 miles of cables.

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Traffic.

When the telegraph system was first thrown open for the use of the public on the 1st of February 1855, the lines were uninsulated and only carried one wire, while there were but 3,255 miles of line, 3,314 miles of wire and 48 offices open. The value of the traffic disposed of was Rs. 24,050 State messages and Rs. 40,760 private, a total of Rs. 64,810. During the first six months the system was open, 9,971 messages were despatched, of which 1,438 were sent on State service. Of the remaining 8,533 messages, 2,864 were sent by natives. The cash receipts were Rs. 60,534-7-0. It is remarkable to notice how from the very first the wires were used by natives, and what is equally interesting is the fact as recorded by Sir W. O'Shaughnessy, that "not only do they use the lines for financial business, but on the very most delicate and secret matters affecting family arrangements, betrothals, marriages, and other domestic affairs, of which they treat with an absence of all disguise which is almost beyond belief."

As has been mentioned in the first part of this article, an experimental line from Calcutta to Kedgeree and Diamond Harbour was erected in 1851-52, over which the public were permitted to send messages. The tariff then charged was as follows:—To any station on the Diamond Harbour line, four annas for each word of not more than two syllables, and one anna for each additional syllable. To any station beyond the Hooghly on the Kedgeree line double these rates were charged. When the system was thrown open to the public, a charge of one rupee for sixteen words per zone of 400 miles of *telegraph line* was made. This tariff remained in force until April 1859, when it was altered, the alteration being that the *direct distance* was charged for. Coincident with the opening of the telegraph system to the public was the receipt of complaints regarding delay, non-delivery and inaccuracy, and from the very first special attention has always been paid to this, every complaint receiving attention. Sir W. O'Shaughnessy in his reports on this subject draws attention to the fact that similar complaints were rife in England and in America, and mentions that in England it was possible to *insure* against losses incurred through telegraphic blunders or delays. The signalling establishment was enlisted on the spot to commence with, and the conditions of service are so dissimilar from other work, that it can hardly be surprising that a very large number of the lads employed proved useless, and Sir W. O'Shaughnessy reports "of every ten persons we employ *on trial*, we consider ourselves fortunate indeed if two or three are found to possess the qualities and habits essential for the duties of the Telegraph."

During the year ending 31st March 1856, fourteen months after the opening of the system to the public, 574 miles of line wire were erected and the revenue rose to Rs. 2,31,380.

By October 1858 the Morse instruments had displaced the needle instruments nearly all over India, and the system of reading by sound was established as by far the best, and it is noted that "Mr. Hills, at Mysore, can receive 40 words per minute spelt in full," a very high rate even now.

A notable change was introduced in May 1858 in the treatment of Service, *i.e.*, State messages. Up to that date they were sent free, and the privilege had been abused. From that date they had to be prepaid, and the right of priority of transmission was cancelled except in cases of special and indisputable emergency. The effect of the change was apparent at once. In March the value of Service messages was Rs. 28,738-9 and in June Rs. 6,449-14, a result that needs no comment.

In April 1859 the tariff was changed in two important particulars. First, the distance by the map and not the telegraph line was charged, the rate still remaining one rupee for 16 words for 400 miles.

Further the rates for messages exceeding the 16-word unit were :—

16	words	Rs.	1	0	0
17 to 24	„		1	8	0
25 to 32	„		2	0	0
33 to 48	„		3	0	0
49 to 64	„		4	0	0

for 400 miles.

So that one additional word above the limit of the group caused the next higher rate to be charged. The sensible change was made of charging 1 anna a word per 400 miles over the 16-word unit group. The effect of this may be judged from the fact that a 33-word message from Calcutta to Bombay (charged as 1,200 miles) cost Rs. 6-3 instead of Rs. 9. The effect of the change was to render the Indian Telegraph Tariff cheaper than that prevailing in any other country, and the immediate effect was a large rise in the number of telegrams despatched.

The same year a school for the instruction and training of signallers was opened at Coonoor in the Nilgherries for lads of European and Eurasian parentage. After passing out from the training school they spent two months in the departmental workshops in Bangalore, where they went through a course of practical work regarding repairs and adjustment of instruments and were then taken on in the department under an indenture for five years. This school only remained open for one year, being closed in 1860. The following February four training classes were opened at Barrackpore, Meerut, Madras and Bombay.

The year 1859-60 saw the introduction of telegraph stamps, one object being to enable persons residing at places where there were no telegraph stations to send their messages prepaid by post to the nearest telegraph office. Telegraph stamps were supplied to all treasuries and stamp offices. In his final report before relinquishing charge of the department he had created, Sir W. O'Shaughnessy prophesies only not that the lines would yield a clear profit, but that a uniform charge for messages may then be adopted for all India. He expected this to occur sooner than it actually did, but that it did not occur within the "two or at most three years" was largely due to the absence of his own strong personality.

In May 1860 the Red Sea cable, which had been opened for the transmission of Indian telegrams on the 1st November 1859, failed. During the time it was opened, only 344 messages of the value of Rs. 18,514 were transmitted by it from India.

Complaints about errors and delays still continued, and as it was found that most mutilations occurred in the names of natives, several native senders were in the "habit of adopting familiar English names, such as Peter, Dr. Green, Grant, John, etc." In order to ensure a closer check on the messages sent, a new branch of the "Complaint" Office, called the "Fault" Branch, was opened, its function being to examine messages regarding which complaint had *not* been made. In order also to afford a check on the speed of transmission, a register of the maximum and minimum time intervals on the main routes was instituted, and the results were made public.

In March 1862, messages of European public news received by the Overland Mail was accorded precedence of transmission over private messages, and later on in the year this priority of transmission was extended to all Press messages of European news, irrespective of the channel through which they reached a telegraph office. This privilege was accorded on the understanding that the whole message was published immediately after receipt and that no use was made of the news before publication.

In January 1866 an important change in the tariff was introduced. For the first 20 words the charge was eight annas per 100 miles, one rupee for 200 miles, and one rupee eight annas per 400 miles.

The same year the state of communications to India were so unsatisfactory that it formed the subject for a Parliamentary Commission, and according to the evidence given before it, the Indian signalling staff "were then deplorably ignorant and thoroughly incompetent," and Colonel Robinson's energies were devoted to improving this unsatisfactory state of affairs. He introduced a new method of grading the men, and gave them good prospects, permanent service, and regular treatment. The hours of duty were reduced to 8 hours daily, and various minor concessions were given, with the result that the service was greatly improved.

In October 1868 the tariff was again altered, the charge being one rupee for ten words irrespective of the distance, a very bold measure, and one which was premature; the more so as there was a heavy loss on the total working of the department. It is interesting to note that in the year 1869-70 six offices, *viz.*, Karachi, Bombay, Calcutta, Galle, Madras and Rangoon, disposed of 84·15 per cent. of the total traffic of India, and the value of these messages was 99·76 per cent. of the total message revenue. This affords a proof of how little the telegraph was used outside the main seaports, and is therefore not to be wondered at that out of 187 offices no less than 160 were worked at a loss. The department had been extending so much that in 1869 a Director of Traffic was appointed, under whom all the offices and signalling establishments were placed. The appointment was much needed, as the Director-General and his Deputy could no longer deal with the transactions of the entire department. The appointment of a Director of Traffic was the more necessary after India

had taken her place among the International administrations, and her lines formed integral links in the lines of communication to the Far East. In 1870 a further concession in the tariff was made, namely, of allowing three words to count for one in the address. The object of this was to encourage the public to use fuller addresses, and so prevent the mis-delivery and miscarriage of telegrams. This concession did not prove successful, and in January 1872 the tariff was altered to a charge of one rupee for six words, the *address being free*, irrespective of distance. An extra 50 per cent was charged for messages to Burma and Ceylon. On the same date a further concession was allowed to all *bonâ fide* Press messages. In order to induce natives to take full advantage of this low uniform rate, by which a message could be sent from or to any station in India for one rupee, notices were posted up in all but Presidency offices, that native messages would be translated free of charge for all persons unable to read or write English.

There had up to this time been considerable difficulties with the various Railway administrations, who had competed with Government; but it was now arranged that messages could be accepted at any railway station for a Government office and *vice versâ* at the above rate. Also a start was made to connect by wire the Government with the railway telegraph office, where there were both in the same station. The new tariff, though there was an increase in the number of messages, did not prove very successful, for while the number of private inland messages increased 100 per cent, the revenue only showed an increase of 11·43 per cent in three years. This was less than might have been expected under the previous tariff with normal expansion.

A general examination in educational and technical subjects of the Signalling Establishment was held early in 1870. The results of the examination proved that the staff as a whole possessed a very creditable amount of knowledge. One hundred and ten prizes were given, in addition to promotion to higher grades. Instruction of military telegraphists was extended and classes were opened in 38 offices. The following year some signallers were taken on in Madras on what was called the "local" scale, for service within the limits of the Madras Presidency. In consideration of their immunity from general service, they were paid considerably less than the "general" scale signallers.

A privileged rate for *bonâ fide* Press messages was introduced in 1873, and it is curious and interesting to note that only 2,375 were sent. The concession cost the department Rs. 44,188-12, being the difference between the ordinary and the new Press rates. That same year the *London Daily News* paid one-tenth of the entire amount spent by the Indian Press during the year, over *one* telegram containing information from the famine districts. Next year saw the practical introduction of duplex telegraphy on the long main routes, which for anything but short lines had proved very difficult to establish. It is to Mr. Schwendler's industry and inventive genius the difficulty was overcome. The practical result was doubling the message-carrying capacity of the wires.

On the 1st April, 1880, several changes were introduced in the tariff. The extra rate between India and British Burma was abolished, as was also the extra charge for messages sent at night and on Sundays and certain holidays. The double charge for cipher was abolished and letter cipher was declared inadmissible. Press messages were charged one rupee per 24 words by day and one rupee for 36 words by night.

The next important change was introduced in January 1882 when telegrams were specified as "deferred," "ordinary" or "urgent," the first class being despatched at half the ordinary rates and the urgent at double those rates. In addition "local" messages were introduced at a tariff of 4 annas for six words intended for places within six miles of a telegraph office. It was at once apparent that the "deferred" class of messages met a public want, and was at once largely used by native senders.

In order to increase the carrying capacity of the wires, an endeavour was made to introduce Wheatstone's automatic transmission, but it was found that the instruments were unsuited for the country. Their introduction was deferred till the year 1900 since which date they have been in general use. Quadruplex telegraphy was also tried, and was introduced between Madras and Bombay in January 1887, but did not prove very satisfactory, the distance, combined with climatic effects, operating against its stability.

The usual quinquennial International Conference was held at Berlin in 1885, and India was represented by Colonel Sir J. Bateman-Champain, R.E., Director-in-Chief of the Indo-European Telegraph Department, and Mr. C. H. Reynolds, a Superintendent of the Indian Telegraph Department. Many improvements and simplifications in the rules for International messages were effected, together with a reduction in the rates. Between India and the United Kingdom the rate was reduced from Francs 5·60 to Francs 5 per word, or from 4*s.* 7*d.* to 4*s.* The international tariffs are all fixed in francs in gold, and the continued fall in exchange prevented India from benefiting by the reduction.

The next Conference was held in Paris in 1890.

An International Conference was held at Budapest during June and July, 1896, and the Indian representatives were Messrs. P. V. Luke, C.I.E., Deputy Director-General, and B. T. ffinch, C.I.E., Director-in-Chief of the Indo-European Telegraph Department. Forty-three Government administrations and twenty-seven cable companies were represented. Substantial reductions were made in the rates between India and East and South Africa, including Mauritius; also between India and the Straits, China and Japan. An increase in the length of a permissible word in telegrams wholly in plain language was made, 15 letters being allowed as a maximum instead of 10. Also the number of figures and signs permissible as one word when written in series was increased from three to five.

It had long been recognized that many advantages could be obtained from the use of accumulators in working telegraph circuits, and as an electric light installation in Bombay had been established in 1897 and power for charging the accumulators was therefore available, a start was made there in 1899 with 100 cells and proved very satisfactory. Accumulators were shortly

afterwards installed in the Calcutta and Madras offices, and every year since has seen an increasing number of offices fitted with oil engines and dynamos for accumulator working. This is a very important advance, and has resulted in much economy of space and material, for the increased work required from the lines required such large numbers of galvanic cells that space could not readily be found for them.

In 1900 Wheatstone's system of automatic telegraphy was introduced between Calcutta and Bombay, Calcutta and Madras, and Calcutta and Rangoon. Owing to the inexperience of the operators in preparing the tapes by punching, a good deal of difficulty was at first experienced, but the speed at which the instruments work enables large blocks of traffic to be disposed of very rapidly. It was found this year that the time intervals had greatly increased, and it is interesting to note that both want of rain and floods were influencing factors. On the desert lines between Deesa and Karachi the insulators get caked with damp salt, dust and sand, which cause so great a drop in the insulation that work is occasionally brought to a standstill. As soon as rain comes and washes the deposit off the insulators, work immediately improves. On the other side of India in Eastern Bengal floods caused immense damage, and the interruptions thus caused were very prolonged owing to the impossibility of moving about.

The Coronation Durbar at Delhi called for very special arrangements, some 2,800 miles of extra wires being erected to carry the heavy traffic expected. Ten local offices were opened in Delhi itself and a staff of some 300 men were employed there. There were 63 Press correspondents, including 9 for Foreign papers. His Excellency Lord Curzon's speech at the opening of the Durbar was telegraphed *verbatim* to the London Press, the first time in the history of the Department of a speech being so telegraphed.

In 1903 the signalling staff of the Department was reorganized and their pay and prospects considerably improved. The same year witnessed the first systematic experiments in wireless telegraphy between Saugor and the Sandheads.

An International Telegraph Conference was held in London in 1903 at which the representatives of India were Mr. H. A. Kirk (Director-in-Chief, Indo-European Telegraph Department), Mr. (now Sir Sydney) Hutchinson, Director of Telegraphs, and Mr. I. C. Thomas. The principal changes introduced were: the admission as one word of the name of the office of destination, irrespective of the actual number of words comprised, including, when necessary, the name of the country or territorial subdivision: the abolition of the *official vocabulary* as the sole source from which words admissible in code telegrams could be taken; the admission in private telegrams of letter cipher, which had hitherto been restricted to the State telegrams: the abolition of a limit to the amount payable for a telegraphic reply. In addition the rates between Australia and certain countries in the East and Far East were reduced to a uniform rate of Francs 3·125 or Rs. 1-14-0 a word. The previous rate was Rs. 3-8-0 a word.

In January, 1904, the long-talked-of "4-anna" telegram was introduced, and at the same time Press rates were largely reduced. In order to cope with the increase of traffic expected, a large number of extra wires had been erected, and during the first three months in which the new tariff was in operation, the traffic rose nearly 26 per cent, with a rise in value of 4·87 per cent.

Wireless Telegraph experiments were continued in 1903-04, and communication was established between Elephant Point, at the mouth of the Rangoon river, and Amherst, a distance of 85 miles.

An improved system of technical training of signallers was introduced the same year, providing for systematic training of selected men by the electrician and his assistants.

In September, 1904, an International Electrical Congress was held in St. Louisa in the United States of America, to which all Governments were invited to send representatives. India was represented by Mr. J. C. Shields. One of the principal results of the Congress is that efforts are being made to secure International agreement in the nomenclature and determination of electrical units and standards. In July, 1904, the Eastern Telegraph Company reduced their rates on the section Aden to Bombay on telegrams to Africa. The Indian Government also reduced their terminal rates on the same class of traffic, which have the effect of reducing the rates to Africa by about 12 to 15 annas a word all round.

The influence of the "4-anna" tariff on inland traffic for its first year of working was very marked and showed an increase over the former year (1903-04) of 30·66 per cent in number with an increase of revenue of 7·68 per cent. The average value of an inland telegram fell at the same time by 2·3 annas. A further effect has been a large increase in the number of abbreviated addresses. At the close of the official year 1905-06 there were altogether 6,723 telegraph offices in India and Burma open for paid telegrams of the following description:

Departmental ..	.. 280
Combined postal ..	.. 2,029
Railway ..	.. 4,403
Canal ..	.. 11

In August, 1905, the rate for ordinary telegrams between Europe and India was reduced to 2*s.* a word.

A change was also made about the same with regard to the 4-anna telegram, allowing ten words including the address to be sent for that charge.

At the close of the year there were 82 offices at which delivery of messages was effected by cyclist messengers. Towards the close of 1905 six lead sheathed paper-insulated cables, each containing 20 conductors, were laid, underground, in bitumen across Dalhousie Square in Calcutta. This is the first time telegraph cables have been laid underground in the tropics, and should time prove the experiment to be successful, there is little doubt many more will be laid in large cities to avoid the inconvenience always occasioned by overhead lines.

Allusion has been made in the beginning of this article to the difficulties of maintaining communication in Bengal, and the year under review affords a notable instance, as four cables across the Brahmaputra suddenly failed, (a large whirlpool appearing near the cable cross-

ing,) causing much congestion on the lines into Burma and Assam.

The following table shows the work and its value, disposed of by combined offices for the past five years :—

Year.	No. of combined offices.	No. of paid Telegrams.	Value of paid Telegrams.	Percentage of total message revenue.
1901-02	1,765	2,697,047	2,456,980	29·07
1902-03	1,806	2,711,595	2,426,330	27·5
1903-04	1,859	3,040,257	2,512,935	29·08
1904-05	1,917	4,024,140	2,670,101	29·9
1905-06	2,029	4,717,436	2,920,437	30·3

Of inland traffic 80·41 per cent is classed "deferred," 14·47 per cent is "ordinary" and 5·12 per cent "urgent."

The percentage of value of the above is 55·1 per cent "deferred," 26·51 per cent "ordinary," and 18·39 per cent "urgent."

A class of traffic that shows a continuous increase is that of telegraphic money orders. The number and amount of the revenue earned under this head has risen from 174,873 to the value of Rs. 1,74,878 in 1901-02 to 214,002 with a value of Rs. 2,00,232 in 1905-06.

The average value of an "urgent" private inland message is Rs. 2-2, of an "ordinary" Rs. 1-2 and of a "deferred" Rs. ·61.

For a good many years certain telegraph offices have been also meteorological observation stations; there are now 45 of them.

The following is a brief summary of the tariffs between India and Europe. Through communication between India and Europe, *viâ* Karachi and the Persian Gulf, was established on the 27th January 1865, and the cable route from Bombay *viâ* Aden and Suez was opened in the spring of 1870. The original tariff was £5 or Rs. 50 for 20 words, which was reduced in 1868 to £2 17*s.* 6*d.* or Rs. 28-5 for 20 words. In 1871 this tariff was raised-to £4 10*s.* 3*d.* or Rs. 45 for 20 words. In 1875 a word rate was established at Francs 5·50 *viâ* Suez or *viâ* Teheran and Francs 5 *viâ* Turkey. These rates were reduced in 1885 to Francs 5 and 4·50 respectively. From the 1st March 1902 the rates *viâ* Teheran and Suez were reduced to Francs 3·125, or 2*s.* 4*d.* per word, and from the 1st January 1903, the rate *viâ* Turkey was further reduced to 2*s.* 3*d* a word. Since the 1st August 1905 the rates have been reduced to Rs. 1-6 *viâ* Turkey and Re. 1-8 *viâ* Teheran and Suez.

Between India and Australia the rates were reduced from the 1st June 1903 to Francs 3·125 or Rs. 1-14 a word. The former rate was Francs 5·7708 or Rs.3-8 a word, with an additional charge of two annas a word on messages to and from Burma.

Field Telegraphs.

No history of the Telegraph Department, no matter how brief, would be complete without reference to the part it has played in the many expeditions that have taken place on the Indian Frontiers. Space does not however permit of any but the briefest summary being given here of the field operations. Reference has already been made to what was done during the Mutiny, and for several years after that the Department was not called on for any field wires. In 1861 the Department supplied material and wires for the Abyssinian campaign. The lines were erected by the Bengal engineers, and the Indian telegraph staff only supervised the lines and offices. In the same year a short line was erected into Hazara. In connection with the Bhutan Expedition in 1865 a light line was run up from Cooch Behar to Buxa. In neither of these cases was there anything of special interest.

In 1871-72 lines were extended into the Lushai Country, and Mr. C. E. Pitman was placed in charge of the party, entering the Lushai Country from Silchar. The only special stores used were an insulator for fixing on trees and later on light copper wire. The whole of the country met with was covered with dense jungle, through which a track for the wire had to be hacked, and the difficulty of the work was enhanced by the want of transport and sickness. The line was erected to Tapai Mukh by Xmas 1871, and a short line with copper wire was taken 14 miles further. The lines were all dismantled by the end of March. In conjunction with the advance from Silchar a line was run up from Chittagong, under Mr. Flindell. The line first went on the bank of the Karnafulli river and thence through the hills to Demagiri. The difficulties of transport labour and supplies were increased by general sickness and a severe outbreak of cholera. It is noteworthy in this expedition that the enemy did not cut the wire once. In November 1875, a small party under Mr. G. L. Towers was sent to Penang to establish and work the telegraph in connection with the field operation in the Straits Settlements. In all 27 miles of line were erected with five offices, and the little expedition proved quite successful. Two years later in 1877 an expedition was sent against the Jowakis. Only some thirty or forty miles of wire were erected. The interesting feature of this campaign was that the wire was used in conjunction with the heliograph.

The following year, 1878, saw the commencement of the Afghan Campaign, in which for the first time field telegraphs were really extensively used. Telegraph parties were to accompany each of the columns, operating from Jamrud *viâ* the Khyber Pass, Thull *viâ* the Kurram and from Quetta. These parties were placed respectively under Mr. P. V. Luke, Mr. Joseph and Mr. Pitman, the latter of whom was at Quetta, having recently erected the line to that place from Jacobabad. As a preliminary, wires had to be erected from Peshawar to Jamrud, and from Kohat to Thull, and this was entrusted to Mr. Nigel Jones, who ran them up very rapidly. By the time the Treaty of Gundamuck was signed, the line had been extended up the Kurram for about 170 miles from Kohat to Karatoga, close to the Shuturgardan Pass. Incessant trouble had been caused by wire cutting, the enemy cutting the wire, burning the posts and doing all the damage they could think of. The lines worked well whenever they were given a fair chance, and on the single wire 284 messages a day were disposed of on the average.

On the Khyber side the sappers laid the wires with the advance of the troops, and Mr. Luke was not permitted to advance up the Khyber till after the fall of Ali Musjid, the reason for the delay being, the fear of the wire being cut by the Afridis. Permission to advance was given the day before Xmas, and the line reached Ali Musjid on the 29th December. It worked perfectly for two days, and it was thought that the wire cutting propensities of the Afridis had been exaggerated. Next day in broad daylight, however, the wire was cut 2½ miles from Ali Musjid, a few yards away from a friendly police post, and 100 yards of wire were stolen. The line was immediately repaired, but was cut again the same night, the Afridis carrying off some 5 miles. The enemy having thus given clear evidence of their intentions, it was decided *not* to repair the line, and in the meantime an extension was made to Lundi Kotal. The inconvenience of not having communication through the Pass was serious, and as it was hoped the tribes would settle down, the break was repaired. The line was next erected to Dakka and then on to Jellalabad. The cold experienced in working in and beyond the Khyber was intense, and the down country men employed on the working parties suffered severely. The line was eventually erected into Gundamuck on the 24th April. The Afridis in the rear had not been idle and wire cutting was of nightly occurrence, and as it was not considered advisable politically to take too much notice of the offence, the Telegraph Department went on supplying the Afridis with wire for months. An interesting incident showing the value of telegraphic communications was that the telegram from Sir Louis Cavagnari to London, announcing the signature of the Treaty of Gundamuck, was handed in to that office at 5 P.M., and the reply to it was timed London 6-30 P.M. of the same day. With the withdrawal of the troops, the lines were dismantled, and the heat proved even more trying than the cold in which the lines had been erected. Cholera later broke out and increased the troubles the party had to bear, but every yard of wire was brought back in safety. On this section 107 miles of line and 117 of wire had been erected: the wire had been cut 98 times, and 60 miles of it had been stolen. The interruptions caused by wire cutting aggregated 49 days in the six months the line was working. The traffic on the single wire, especially during the withdrawal, was very heavy, and called for extraordinary exertions from Mr. Luke, his assistant, Mr. Duthy, and the staff. Over 30,000 messages were disposed of, Lundi Kotal office alone accounting for over 6,500.

The difficulties encountered by the Kurram and Khyber parties in the way of transport, great though they were, were less than those which Mr. Pitman at Quetta had to surmount. All the stores had to be brought by road from Sukkur on the Indus, through the Bolan Pass up to Quetta, just at the time when the demands for transport for military supplies were at their maximum. In spite of the unflagging exertions of Mr. Pitman and his staff it was impossible to get the line up to Chaman, just beyond the Khojak Pass till the 22nd February. Considerable difficulty was experienced in taking the line over the Pass, owing to the steepness of the slopes and their rocky nature. The party also suffered severely from cold. The line was extended into Kandahar on the 31st March, a fine performance as the last 77 miles were erected in sixteen working days. Curiously enough, there was only one case of wire-cutting between Chaman and Kandahar.

By the time the Treaty of Gundamuck was signed, 420 miles of line and 20 offices had been opened by the three columns. For the first time, military telegraphists were employed in the field offices, and their great value for this work was fully established.

For the first time also the great value of the wire along the lines of communication was realized and the necessity for having a regular organization and equipment was proved. The value of the services rendered by the Department and its officers were fully recognized, and Messrs. P. V. Luke and C. E. Pitman received the decoration of the Indian Empire, which Order had just been created.

Before arrangements could be made to revise the equipments for field telegraphs, hostilities again broke out consequent on the murder of Sir Louis Cavagnari in Cabul in the early part of September 1879. At this time Mr. Pitman was at Quetta, Messrs. Joseph and Reade on the Kurram, and Mr. Duthy on the Khyber, and in anticipation of an advance, supplies had been accumulated at Karatoga in the Kurram and Dakka beyond the Khyber. General Roberts was at Kushi beyond the Shuturgardan, and every effort was made to push on the wire to him, but it did not reach that place till the troops were moving on to Cabul. Neither escort nor transport for the telegraph party could be spared, so Mr. Joseph had to return to the Shuturgardan, having a narrow escape of being cut up by the enemy on the way. The enemy then set themselves to destroy the line on both sides of the Shuturgardan, and by the 12th October it was found impossible to maintain communication with India. Finally, on the 20th October, Mr. Joseph received permission to go ahead, and leaving the wrecked line behind him, he accompanied Dr. Bellew to Cabul, arriving there on the 26th October. Next day he started erecting a line towards the Khyber and, finally, joined hands with Mr. Luke at Jagdallak on the 19th November, thus establishing for the first time telegraphic communication between Cabul and India.

The siege of Cabul commenced on the 14th December, Messrs. Luke and Kirk, who had been sent up to assist, being there at the time. All the important posts within the Sherpur Cantonments were connected by telegraph. The enemy were dispersed on the 23rd December, and the wrecked line was immediately reconstructed. The field lines back to our frontier were dismantled in June 1880.

On the Quetta side Mr. Pitman, who had taken furlough, had been replaced by Mr. R. Boteler. A short line was run up to Kach, 45 miles from Quetta, and 9 miles of line had been constructed to accompany the troops moving from Kandahar to Girishk, when the disaster at Maiwand occurred. This line had to be abandoned when the troops returned to Kandahar, and was completely destroyed. As soon as the siege of Kandahar commenced, all important posts were connected by telegraph, and in addition a telephone line was erected between the signal tower and the north-west bastion and was used for directing the fire of the guns. Four lines of wire entanglements were also carried completely round the

city. When the siege was raised by Lord Roberts, the line between Kandahar and Chaman, which had been completely destroyed, was repaired. Messrs. Boteler and Pinhey were in Kandahar throughout the siege, and the value of their services was acknowledged by Government.

In connection with the military operations of the Kandahar Field Force, a railway was constructed between Ruk and Sibi, and when the railway works were pushed on up the Harnai Pass, a temporary telegraph line was erected along the route, and was extended to Quetta *viâ* Kach. The greater portion of this line was destroyed by the tribes after the defeat at Maiwand.

In consequence of the murder of Mr. Damant, a Political Officer, in October 1879, an expedition was sent against the Nagas. A line was run up to Golaghat and subsequently to Kohima and Chucka. The party was under Mr. W. J. Browne, and great difficulty in procuring labour and transport was experienced. In this small expedition, field post offices in each telegraph office were established.

Great demands were made on the Department in connection with the expedition into Upper Burma in October 1885. There were existing lines and cables in the country, but they were found to be in such bad order that wholesale reconstruction had to be undertaken. The lines were maintained between Prome and Mandalay along the Irrawaddy, and the Lower Burma line was extended from Tounghoo to Myingyan, and thence on to Yamethin. The wire was constantly cut by dacoits and much difficulty was experienced in maintaining communications. There were military operations throughout the greater part of the new province for some time, and in the meantime the telegraph system was steadily developed, as each portion of the country came under our control. Messrs. C. P. Landon, C. F. H. Macleane and R. C. Barker were specially mentioned by Government in connection with these lines.

In 1888, the Department was again called on for field work in connection with expeditions into Sikkim, Hazara, and the Chin Hills. The Sikkim lines were erected by Mr. W. H. M. Hare and were remarkable for the altitude which the lines reached. In all 105 miles of line and 12 offices were opened, including an office at Bhutong, at an elevation of 13,500 feet. The offices were worked almost entirely by Military Telegraphists who, together with the construction party, underwent considerable hardships.

In September 1888, field lines were commenced in connection with the expedition into Hazara from Abottabad to Oghi. Early in October, the lines were extended with the advance of the troops to the Black Mountain. The campaign lasted, roughly, two months, during which 158 miles of line and 48 miles of cable were laid by the Department, in addition to 38 miles of line and 8 miles of cable by the Bengal Sappers and Miners. In this campaign the specially devised equipment for field telegraphs was used for the first time and proved very successful. Field cable laid on the ground was also used for the first time and proved of the utmost service. Mr. R. C. Barker, who had already been favourably noticed by Government for his services in Upper Burma, was in charge of the field telegraphs, and received the decoration of the C. I. E., being the first of the Telegraph officers appointed from Coopers Hill to receive that reward. The services of Mr. A. D. Hill were also specially brought to notice.

The Chin Expedition was a small one involving the erection of 70 miles of flying line and three offices. The whole party suffered a great deal from sickness.

The following year 372 miles of line were erected and 28 offices opened in connection with the Chin-Lushai Expedition. Two columns of troops were sent in to the Chin country, and two minor parties worked in conjunction with the larger ones. The first column under Genl. Tregear started from Demagiri in October 1889 with Mr. E. O. Walker in charge of the telegraph party. Offices were opened at Lungleh, Fort Tregear, and the line was extended to the Upper Koladyne by the end of March 1890, 104 miles from Demagiri. The difficulties met with were very great and the entire party suffered much from fever, and eventually Mr. Walker's health broke down and he had to proceed on leave. His services were prominently brought to notice and he received the decoration of the C. I. E.

The second column started from Pauk on the Yaw River, not far from the Irrawaddy, under General Symons (who was subsequently killed at Glencoe in Natal shortly after the outbreak of the South African War). The telegraph party was under Mr. F. E. Dempster. The actual base of the expedition was Kan on the Myitta River, 85 miles from Pauk, and a line had first to be erected to that place. The party suffered severely from sickness, and in two months lost a European (Mr. Cress), one lineman and twelve coolies by death and two Europeans, five linemen and sixty coolies sent back sick out of a party of about 130, all told. Mr. Mercer was subsequently attached to the party. The line reached the objective, Haka, on the 15th February 1890. In all 192 miles of line were erected and six offices were opened.

Mr. Elrington had charge of the third party and erected two lines, one from Kalemyo to Fort White, 37 miles, and from Kalemyo to Sihaung, 36 miles. Much trouble was caused on these extensions by sickness and to wire-cutting by the Chins, who out of the total length of 37 miles on the Fort White line carried off 25 miles of wire.

The fourth party started from Jhalnacherra in Sylhet, but sickness was so incessant that the party had to be withdrawn, 80 per cent of the men being ill. Work was again resumed in the autumn and the line was extended to Changsil Bazar, 44 miles, and thence another 14 miles to Fort Aijal. Messrs. J. W. Hensley and H. T. Pinhey were in charge. The same cold weather the Chin-Lushai lines to Fort Tregear and to Haka were thoroughly overhauled and repaired. Sickness was again very troublesome, and one officer, Mr. Hudson, was invalided, and Mr. Rector, Sub-Assistant Superintendent, died.

A further expedition was sent in 1891 to the Black Mountains, and 108 miles of line were erected and 25 field offices opened. Mr. Barker, C.I.E., was in charge with Mr. I. C. Thomas to assist him. The weather was very wet and trying, but the telegraph lines worked most successfully.

Mr. Oldbury Burne constructed 46 miles of line from Kohat *viâ* Hangu to Gulistan in connection with the Miranzai Expedition, the success of which was fully acknowledged by the Commander-in-Chief.

The same year saw a large number of lines erected on the frontier of Upper Burma in connection with minor expeditions. The most important were lines aggregating 126 miles in connection with the Wuntho Expedition. The usual difficulties were encountered and overcome, and the following year saw the majority of the lines in process of reconstruction and being included in the general system. The lines to Manipur which had been wrecked during the rebellion, were repaired in May and June 1891, and the party under Mr. Mercer suffered even more than usual from sickness. Mr. Pinhey who was working on the Assam side had almost as arduous a task before communication was re-established with Manipur.

In September 1892, a short line of 33 miles in length was erected from Haripur to Derband and thence to Tarvara in connection with the Isazai Expedition, by Lieut. Moore, R.E.

When Lord Roberts left India the following March, he left on record his appreciation of the assistance that had been given to military expeditions by the Telegraph Department. He, from the first, had recognized how important reliable field telegraphs with an expedition were, and had never relaxed his keen interest in the development of the field telegraph organization. It is no doubt largely due to that interest that the Department were afforded the opportunities it has enjoyed in perfecting its military telegraph equipment. The officers to whom the greater part of the credit is due for the admirable equipment and organization now in existence, are Messrs. Luke, Pitman and Kirk, all of whom had had practical experience in the field to guide them.

Though in the year 1893-94 there was no actual expedition, yet practically field telegraphs were in use on the Burma frontiers, and during the year an immense amount of trouble was caused by wilful damage. In the Meiktila, Myingyan and Mu Valley Districts 38 miles of insulators were destroyed by stone throwing. In the Chin Hills 18 miles of insulators were stolen, the object in this case being, not only damage to the line, but also to obtain the steel stalks which made admirable spear-heads!

The end of the year 1894 saw the commencement of unrest on the north-west frontier and for the next four years there was a succession of expeditions, all of which were accompanied by telegraph parties. The first line required was from Tank to Wano, a distance of 70 miles with eight offices, which was erected by Mr. A. J. L. Grimes, assisted by Lieut. Panet, R.E. This work was completed in January 1895, and then Mr. Grimes went to Bannu and erected the line to Sheranni, 64 miles, by the 2nd March. The last 44 miles were erected in 5 days, nearly 9 miles a day, a result only possible through the excellence of Mr. Grimes's arrangements, which were specially acknowledged by Government. The line was subsequently extended to Datoi, making 70 miles in all, with 18 offices. In the meantime there was trouble in Chitral, and an expedition under General Sir Robert Low, G.C.B., assembled at Nowshera in March. The force was a large one, and the telegraph party sent with it was a very strong one under Mr. F. E. Dempster, and Messrs. J. M. Coode, R. Meredith and Lieut. Macdonald, R.E. The frontier near Jalala was crossed on the 1st April, and the line was completed into Chitral, 183 miles, by the 17th May. In all 454 miles of wire and 279 miles of line were erected and 29 offices were opened. The average rate of construction was 5 miles a day, the maximum being 12 miles. When the troops were withdrawn, the line between Killa Drosh and Chakdara on the Swat River was dismantled. The traffic throughout the campaign was exceptionally heavy, and to cope with it three wires were erected from the base to the Swat River, and two wires up to Dir. Between March and October, 12,125 State messages of a value of Rs. 1,23,745 were transmitted between India and the field lines, while the traffic which did not leave the system totalled 75,381 of an estimated value of Rs. 5,15,500. There was in addition heavy Press traffic. As usual, the enemy cut the wires freely, but beyond that, the lines were remarkably free from interruptions. The value of the services rendered were fully acknowledged by the Government of India and Mr. Dempster received the decoration of the C. I. E.

In all expeditions beyond the frontier the brunt of the preliminary work of erecting lines to the actual base, the assembly and equipment of the party and collection of the stores, falls on the local Divisional Superintendent. It is fitting here to mention the name of Mr. W. K. D'O. Bignell who for many years held charge of the Punjab Division and to whose energy and admirable arrangements the success of the telegraph operations beyond the actual frontier were largely due. These services were repeatedly acknowledged by Government. Mr. Bignell retired in 1895, the Chitral Campaign being the last one for which he was called on to make arrangements.

June 1897 ushered in a fresh period of activity on the North-West Frontier during which the demands made for field telegraphs were very extensive. In that month, in consequence of the attack on the escort of the Political Officer at Maiza, the Tochi movable column was mobilized with a view to punish the sections of the Darwesh Khel Waziris concerned. Lieut. Green, R.E., was in charge of the telegraph operations, and was quite successful in his arrangements. The existing field line to Datta Kheyl was strengthened and a second wire run up. One new office was opened at Kajuri, which was closed at the end of the operations in February 1898.

During the attack on the Malakand in July 1897, the line was damaged on the Mardan side, and almost totally destroyed between the Malakand and Chakdara. Lieut. Robertson was immediately sent up and repaired the line south of the Malakand after it had been interrupted for 30 hours. Some 300 yards had been cut and carried away of each of the three wires. Again the wires were cut on the 30th July and 1,200 yards stolen. After Chakdara was relieved, it was found that the line from the Malakand to that place had not only been destroyed but that all the material—posts and wires—had completely disappeared. It was subsequently admitted by the tribesmen that they had thrown the material into the Swat River. Communication by field cable with Chakdara was restored on the 5th August, and by the 12th idem a two-wire line had been erected! Mr. Pitman, C.I.E., had assumed charge of the work on the 29th July. Early in September the line was extended to the Panjkora River, and was dismantled by the end of October.

In August, in connection with the operations against the Mohmands, a field line was run up to Shabkadar, 18½ miles from Peshawar, and thence to the Nahaki Pass, also to Adozai, 13 miles from Peshawar, and a third line to Abazai. This work was done by Mr. L. Truninger. Subsequently short lines were erected to Michni and Bara Fort. Transport was as usual the main difficulty, but all these lines were erected very rapidly by Mr. H. S. Pike. 52 miles of line were erected with the Buner Expedition from Mardan to Kangargali, and from Mardan to Surkhabi in the direction of the Ambeyla Pass.

The lines erected with the Tirah Expeditionary Force were under Mr. L. Truninger, who had with him as assistants Mr. E. E. Gunter and Lieut. Garwood, R.E. Later on Mr. H. S. Pike and Lieut. Robertson were also attached for a short time.

Work was commenced from Hangu towards Shinwari, 20 miles away, on the 25th September 1897, by a party under Mr. Gunter, and a two-wire line was completed into that place by the 2nd October with an office at Kai. By the 23rd October the line was erected as far as Karappa, considerable trouble having been caused by the enemy who constantly cut it. As further advances were permitted, the line was extended *viâ* the Sampagha Pass and Arhanga Pass to Bagh and Mardan, and two wires were completed into the latter place on the 20th November. One party under Lieut. Garwood, R.E., when returning to camp near Karappa, was fired on, and four out of the eight sepoys of the Jhind Imperial Service Infantry forming the rear-guard were wounded. As is usual on such a work, whenever the advance was stopped, the opportunity was taken to strengthen and improve the alignment of the line already up. It having been decided that no lines would be required beyond Mardan, all spare stores were sent back to Shinwari, and dismantlement commenced on the 4th and was completed on the 14th December without very much difficulty by Mr. E. E. Gunter.

In the meantime, after it had been settled that the troops would return by the Bara Valley, the line from Peshawar to Fort Bara was strengthened, and a second wire was erected from the first-named place to Ilamgudi. Stores were also sent on to Fort Bara. The line was ultimately extended to Gandao Pass, 19 miles beyond Fort Bara, by the 13th December.

In all, 87 miles of line and 138 miles of wire were erected. The enemy gave trouble from the first, caused 28 faults between the 25th September and 30th December. These faults caused 470 hours or very nearly 20 days' interruption out of 97 days' work. On one section beyond Mastura the line was cut 15 out of 30 nights. These interruptions seriously hampered the disposal of traffic, which was even heavier than is usual on frontier expeditions. During the period 1st October to 31st December, 65,000 messages were disposed of in the field offices.

The value of the services rendered by Mr. L. Truninger and his offices were specially recognized by the Military authorities and endorsed by the Government of India.

Though the Department supplied material for the China Expedition, none of the staff were employed there, and the next expedition in which it took part was in June 1903, in connection with the Sikkim-Thibet Mission, where a line was laid from Darjeeling *viâ* Rungpo and Gantok northwards for 95 miles to Khambajong, which place was reached on the 13th September. Khambajong itself is 15,722 feet above sea-level and the highest altitude over which the line was taken was 17,500 feet, which is believed to be the highest ever reached by a telegraph line. The labour involved at that altitude was very great. The men carrying posts or wire had to halt to regain their breath every few feet, while digging and all manual labour could only be carried out with frequent stoppages and to the great distress of the party. This line was erected by Mr. MacMahon, Sub-Assistant Superintendent. In the following December the Khambajong line was abandoned, after the Mission had moved into the Chumbi Valley, and the field telegraph was extended from Rungpo through Gnatong and reached Chumbi over the Jalap Pass on the 8th January 1904. The line was extended to Pharijong, 80 miles from Rungpo, on the 27th January. As it was considered advisable to have an alternative route to avoid the difficult Jalap Pass, a second wire was carried from Rungpo to Gantok and thence to Changu and from Chumbi to Champethang, places situated on either side of the Nathu La, and subsequently these two places were connected. From Pharijong the line was extended to Tuna on the 27th March, passing *en route* over the Tang La, 15,700 feet. A further advance was made to Gyantse where an office was opened on the 27th June. Owing to scarcity of transport, the line could not be extended any further, and Lhassa thus still remains unreached by the telegraph wire. Altogether some 300 miles of line and well over 400 miles of wire were erected, with 25 offices. There were difficulties enough in erecting these lines at such great altitudes, and it is therefore fortunate that the Thibetans did not cut the wire or damage the line very much. The party suffered severely from cold, and while working in the rarefied atmosphere, but stuck gamely to their work. The transport difficulty was even more acute than usual, though exceptionally light material was being used. Mr. L. Truninger received the decoration of the Companionship of the Indian Empire for his services.

The Department has not since then been called on for any field work.

The equipment is now such as is suited for any climate and any country. It is probable that in future campaigns wireless telegraphy will play a part, as it has already done in Africa with the German Expedition.

(*To be continued.*)

BIOGRAPHICAL SECTION.

His Excellency The Right Hon. Sir Gilbert John Elliot-Murray-Kynynmound, Earl of Minto, P.C., G.M.S.I., G.M.I.E., G.C.M.G.,

Viceroy and Governor-General of India.

HIS EXCELLENCY THE RIGHT HON. SIR GILBERT JOHN ELLIOT-MURRAY-KYNYNMOUND, Viceroy and Governor-General of India, is the fourth Earl of Minto. The title was created in 1813, predecessors of the Earl having been created Baronet in 1700, Baron of Minto in 1797, and Earl of Minto and Viscount Melgund in 1813. The first Earl of Minto (Sir Gilbert Elliot) was descended from an old border family, the Elliots of Minto, who were a branch of the family of Stobs, and was born at Edinburgh in 1751. His father, Sir Gilbert Elliot, was a member of the administration of Pitt and Granville, and was spoken of by Horace Walpole as "one of the ablest men in the House of Commons." He was created Baron Minto in 1797, and after filling several diplomatic posts with great success became, in 1807, Governor-General at Fort William. His great-grandson was born at London, England, on the 9th July 1845. He was educated at Eton and Cambridge, taking his degree at the latter place. During these years he showed considerable powers as an athlete; and in Minto House there are to be seen several trophies of his skill in rowing, sculling and running. Lord Minto rode in many races on the flat and across country, and in 1874 brought Captain Machell's "Defence" in fourth for the Grand National at Liverpool; and won the Grand National Steeplechase of France at Auteuil on "Miss Hungerford;" and in many other events over hurdles he rode winners trained by Mr. Richardson. It is related of His Lordship that at the Lincoln Spring Meeting of 1875, he passed the post first on five different mounts. He was also well known as a bold rider with the Duke of Grafton's, Lord Yarborough's and the Bicester Hounds.

In Military affairs the Earl has had great experience and frequently seen active service. Having finished his education, he, then Lord Melgund, joined the Scots Guards in 1867, leaving that Regiment after three years' service. In the following year, 1871, he was for a short while in Paris, with his two brothers, during the Commune. In 1874 he went as Correspondent for the *Morning Post* with the Carlist Army in Navarre and Biscay in the North of Spain. In the spring of 1877, he went out to Turkey. There he was attached by the British Ambassador to the Turkish Army, and became Assistant Attaché under Colonel Lennox, and was the first to announce in England that the Russian Army had crossed the Balkans. He was present with the Turkish Army at the Bombardment of Nikopoli and the crossing of the Danube. In 1878 His Lordship came out to India. He went straight to the front in Afghanistan, joined Lord Roberts, and was with him in the Kurram Valley. When peace was concluded after the treaty of Gundamak, he went to Simla, and when there was asked to accompany Cavagnari's mission to Cabul, and to carry a despatch from that place across the frontier to General Kauffman, who was then commanding the Russian advanced post at Samarcand. The idea was, however, given up, owing to Cavagnari's opinion that the whole mission would become State prisoners at Cabul, and that it would be impossible to proceed further with despatches. Shortly after Lord Minto heard of the massacre at Cabul; Cavagnari and the whole of his escort, with the exception of one man, were killed. In 1881 after the defeat of Majuba he accompanied Lord Roberts to the Cape as Private Secretary. In 1882 Lord Minto went out to Egypt as Captain in the Mounted Infantry—picked shots from all the different Regiments and mounted on little Arab horses—until they were disbanded at Cairo. Most of the officers were either killed, wounded or invalided. One of the surviving officers, Major Bartelot, was killed during the Stanley Expedition. Lord Minto was wounded in action at Magfar. He was several times mentioned in despatches and was thanked in general orders.

In 1883 His Lordship went out to Canada as Military Secretary to the Marquis of Lansdowne, then Governor-General. When there, telegrams arrived asking him to raise three hundred Canadian Boatmen and take them out to Egypt in Command. There were various reasons why he could not go, and he was then asked to organize the whole body, which he did. It was in the spring of 1885 that the North-West Rebellion broke out under Riel. The operations were similar to Lord Wolseley's Red River Expedition in 1870. General Middleton was sent up with a force of Volunteers to quell

His Excellency The Right Hon. Sir GILBERT JOHN ELLIOT-MURRAY-KYNYNMOUND, EARL OF MINTO,
Viceroy and Governor-General of India.

the outbreak, and Lord Melgund was appointed Chief of the Staff. In 1889 he was appointed General Commanding the Scottish Border Volunteer Brigade. His decorations include the Afghan Medal, Egyptian Medal, 1882, Medjidie Khedive Star and the North-West Canada 1885 Medal and Clasp and Volunteer Officers' Decoration. He was to the front in starting the Border Mounted Rifles (disbanded in 1888); and when the Scottish Border Brigade was formed in July 1888, His Lordship was appointed Brigadier-General. In 1898 Lord Minto returned to Canada as Governor-General, and the six years of his administration were eventful ones for the Dominion, whether viewed with regard to internal development or Imperial relations. They covered a period of prosperity unexampled in its previous history. The trade and revenue of the country increased by leaps and bounds. The Earl of Minto was a great success in Canada, and the series of demonstrations of kindly feeling that were exhibited in nearly all the large centres of the Dominion during the last few weeks of his term of office, showed how sincerely cordial were the relations that had been established between Lord and Lady Minto and the Canadian people of all races, religious denominations, and political parties. Lord Minto was known to be on terms of intimate friendship with Sir Wilfred Laurier, the trusted Leader of the Reform party, whose administration has been marked by various measures tending to unite Canada more closely with the Empire. Shortly after the resignation of Lord Curzon in 1905 Lord Minto was appointed Viceroy of India, arriving in Calcutta in December. In 1883 he married Mary Caroline Grey, daughter of General the Honourable Charles Grey, who was Private Secretary to the Queen. There are five children—Lady Eileen Elliot, Lady Ruby, Lady Violet, Viscount Melgund and the Hon. William Esmond Elliot.

Government House, Calcutta.

The Right Hon. GEORGE NATHANIEL CURZON, BARON KEDLESTON,
Ex-Viceroy and Governor-General of India.

The Right Hon. George Nathaniel Curzon, Baron Kedleston

(IRELAND), P.C., G.M.S.I., G.M.I.E.,

Ex-Viceroy and Governor-General of India.

GEORGE NATHANIEL CURZON, eldest son of the Rev. Alfred Nathaniel Holden Curzon, fourth Baron Scarsdale, and of Blanche, daughter of Joseph Pocklington Senhouse, of Netherhall, Cumberland, was born at Kedleston, Derbyshire, of which parish his father was Rector, on the 11th January, 1859. The Curzon family goes back to one Giraline de Curzon, lord of the Manor of Lockinge, in Berkshire, and of Fishhead in Oxfordshire, who came over from France with William the Conqueror and whose name is in the Roll of Battle Abbey. The elder line married into the family of the Earl of Dorset, and became extinct long ago. The second line, the Curzons of Kedleston, have survived and thrown off branches. Among the Curzons of this branch was John Curzon, called "John with the white head," who was Sheriff of Nottingham in the reign of Henry the Sixth, but it was not until 1641 that the descendant of John Curzon obtained a baronetcy. The son of the first baronet, Sir Nathaniel, which by the way is a familiar Christian name in the family, married into the Penn family, and after a course of Johns and Nathaniels we come to Sir Nathaniel Curzon, who died in 1758 leaving two sons, Nathaniel and Assheton. In 1761, Sir Nathaniel was created Baron Scarsdale. His brother Assheton became Viscount Curzon in 1802, and his son married the daughter of Earl Howe. He was himself created Earl Howe in 1821, and this branch of the Curzon family is numerous. The second Baron Scarsdale succeeded in 1804, and married into the Wentworth family. On the death of his first wife he espoused a Flemish lady, Felicite Anne de Wattines. By his first marriage he had a son, the Scarsdale who died unmarried in 1856, and the third Baron peerage then went to the grand-children of his second wife. The eldest son, George Nathaniel, had been killed by a fall from his horse in 1855, and his brother Alfred Nathaniel Holden, a clergyman in Holy Orders, became fourth Baron Scarsdale in 1856.

Lord Curzon is the eldest son of the fourth Baron, and has had nine brothers and sisters. Educated at Eton, and at Balliol College, Oxford, George Nathaniel Curzon at a very early period of his life gave proof of special ability, and setting a political career steadily before him, lost no time in embarking upon a course marked out for official distinction. Balliol has for long been distinguished for the intellectual attainments of its members, and its intellectual influences have spread far beyond any mere academical limits; while the Oxford Union, of which Lord Curzon became President in 1880, has attained a world-wide reputation, chiefly on account of the weekly debates held in connexion therewith. This debating society has been the nursery of many great orators, and during his 'Varsity career Lord Curzon was one of its most powerful speakers. In later years the experience thus gained has proved of immense service, and the vigorous intellect that Lord Curzon brought to the service of India, his debating powers, his ability to clothe his thoughts in fluent and appropriate language, and his capacity to grapple with far-reaching questions which a weaker man would hesitate to enter upon, were doubtless largely due to his early training in the rooms of the Oxford Union Debating Society. On leaving Oxford, Lord Curzon at once entered upon his public duties, and in 1885 he became Assistant Private Secretary to Lord Salisbury. His first attempt to enter Parliament was unsuccessful, as he was defeated by the Liberal candidate in the Southern Division of Derbyshire in the General Election of 1885. In the following year, however, he was returned for the Southport Division of Lancashire by a majority of 461 over Sir G. A. Pilkington, and this Division he continued to represent in the House of Commons, in the Conservative interest, up to the date of his appointment to the Viceroyalty of India.

In 1891 he was appointed Under-Secretary of State for India in succession to Sir John Gorst, and during the remainder of Lord Salisbury's Administration he was afforded the opportunity of becoming familiar with the details of the India Office, then presided over by Viscount Cross. He had already commenced to travel widely, and his visits to Central Asia, Persia, Afghanistan, the Pamirs, Siam, and Indo-China, resulted in the publication of several books on the political problems of the Far East. He made a special study of Indian frontier problems, and was the first Viceroy of India since Lord Lawrence to realize the responsibilities of Asiatic rule prior to his appointment. Like a great many other statesmen, Mr. Curzon, as he then was, looked upon Russia as always a possible enemy, and a Power with which Great Britain might yet have to fight over Afghanistan or Persia. Twice in the century had Cabul been made the cock-pit of British disaster, and Mr. Curzon was of opinion that it might yet come to be regarded as the citadel of British salvation. Lord Curzon's distraction, during his Parliamentary career, was a close and conscientious study of the geography of Asia in its political and commercial, as well as its geographical aspects. India, to him, always appeared to be the pivot and centre—not the

geographical but the political and imperial centre—of the British Empire. His travels in Asia for the purpose of acquiring information at first hand were all carried out within the limit of time in which he held a seat in the House of Commons, and they resulted in the publication of three important works, *i.e.*, "Russia in Central Asia," published in 1889; "Persia and the Persian Question," 1892; and "Problems of the Far East," 1894. In 1895 he received the Gold Medal of the Royal Geographical Society. Although he had travelled extensively, and had been recognised in the House of Commons as one of the coming men, it was not until he was appointed Under-Secretary of State for Foreign Affairs, in 1895, under the Salisbury Administration, that Lord Curzon held a very prominent position in the Home Government. In his position at the Foreign Office he showed qualities of eloquence, debating power, and of argument which have hardly been surpassed in the career of any man of his standing.

In 1895 Lord Curzon married Mary, a daughter of the late Mr. L. Z. Leiter, a well-known millionaire of Chicago, who for some years previous to her marriage had lived at Washington where, as an intimate friend of the wife of the then President of the United States, Grover Cleveland, she had become a most important factor in the social life of the City. The marriage took place in April, 1895, and the newly-made wife quickly identified herself with her husband's work, displayed a marked interest in his literary labours, and stimulated his ambition by the exercise of a healthy and inspiring influence. Her beautiful home in London was fast becoming a rendezvous for the leaders of the Conservative party, when her husband was appointed Viceroy and Governor-General of India, and shortly afterwards raised to the Peerage, with the title of Lord Curzon of Kedleston.

Lord Curzon assumed control of the Indian Administration in January, 1899. He came to India imbued with the idea that in the great experiments being carried out in this country lay the true test of dominion, the real touchstone of our Imperial greatness. He was firmly of the opinion that courage and sympathy were the chief qualities needed in dealing with Indian problems, and that it was better to have ideals and fail to reach them, than never to have ideals at all. He came to India as a rising politician who had supplemented wide and solid studies of Asiatic politics by extensive travel. His high credentials of statecraft, his interesting, and, from a political point of view, slightly romantic career, his youth, and above all, his oft-expressed love for India, and sympathy with her people and their aspirations, all combined to give Lord Curzon's welcome to India an enthusiastic cordiality which had been absent in the case of many of his predecessors. During the years that he was Viceroy, Lord Curzon investigated with unabated zeal and energy the endless questions that present themselves to the responsible ruler of 300,000,000 people. He put new life and vigour into the great machine of Government and with a firm belief in himself, and in the mighty empire which he governed, he discerned the dangers and difficulties of India's position, as they exist within and without her frontiers. Lord Curzon never extenuated the difficulties which confronted the Government in India, but he always showed himself confident that with forethought and decision they may be overcome. No British statesman in our day has realized the nature of the transformation that has been wrought in the changing politics of Asia in their recent years, or has appreciated more fully the effects it is calculated to produce upon the internal and external position of India. And a notable feature of Lord Curzon's Administration has been the vigour with which he grappled with and attempted to settle outstanding questions which weaker Viceroys had allowed to remain open. Like other great men, Lord Curzon has had his detractors, but when his work in India passes into history, and is reviewed on that basis, his personal idiosyncrasies will be subordinated to his firmness, his energy, and the thoroughness with which he has raised the already high standard of Indian administration, and the singleness of purpose and independence of mind that have given him so notable a place in the long line of Governors-General. The chief features of that administration are fully dealt with in the pages devoted to historical survey.

In the military controversy, which resulted in Lord Curzon's resignation of the Viceroyalty of India, his Lordship's views had on his side the whole of the Civil Services in India, the unanimous weight of non-official English opinion in this country, an overpowering preponderance of Indian opinion and the support of the majority of the Indian Army. His Lordship made it clear, in his parting speech at the Byculla Club, Bombay, that his action was not due to a personal quarrel or that it was based on personal grounds. "I resigned," he explained, "for a great principle, or rather for two great principles, firstly, the hitherto uncontested, the essential and, in the long run, the indestructible, subordination of Military to Civil authority in the administration of all well-conducted states, and, secondly, the payment of due and becoming regard to Indian authority;" adding significantly, "the principles have not vanished though they have momentarily disappeared. They will re-appear and that before very long." Lord Curzon left India on the 18th November 1905, having attempted and accomplished much during his seven years of good and conscientious work.

General Horatio Herbert, Viscount Kitchener of Khartoum, G.C.B., O.M., G.C.M.G., R.E., Commander-in-Chief in India.

GENERAL HORATIO HERBERT, VISCOUNT KITCHENER OF KHARTOUM, G.C.B., O.M., G.C.M.G., R.E., Commander-in-Chief in India, Commandant of the Corps of Royal Engineers, is the eldest son of the late Lieutenant-Colonel H. H. Kitchener, 13th Dragoons, of Cossington, Leicestershire, and was born at Crotter House, Ballylongford, Co. Kerry, Ireland, on the 24th June 1850.

As has been the case with the two last Commanders-in-Chief of the British Army, Lord Kitchener has reached the highest eminence in the Military service of the King without that assistance of birth or connections which is generally supposed to be a ready stepping-stone to place and preferment; and the record of their achievement goes to show that genius and merit command the highest posts of the Imperial Army.

After the usual course of candidates for the scientific arms at the Royal Military Academy, Woolwich, young Kitchener received his commission as a Lieutenant of Royal Engineers on January 4th, 1871.

Just prior to this, however, he had shown his practical sympathy with the French nation, by serving as a volunteer in their forces during the disastrous campaign of 1870-71: an incident of his career which did not fail of political significance at the time of the Fashoda episode. Early in his service Lieutenant Kitchener took up work in the Middle East, which laid the foundation of his wide knowledge of Oriental characteristics; this included the survey of Western Palestine, a mission to Cyprus, and the Vice-Consulship of Erzeroum, all of which were within the first ten years of his service. Arabi Pasha's revolt drew his services to the field, which, in later years, won him the greatest distinction; and it is characteristic of his versatility as a military leader that, for some two years after the collapse of the rebellion, the "Sapper" Captain served as an officer of Egyptian Cavalry. In Lord Wolseley's Nile Expedition of 1884-85, for the relief of another gallant Sapper, General Gordon, Brevet-Major Kitchener served as Deputy Assistant Adjutant-General and Quartermaster-General, and at the close of the operations he was awarded the Brevet of Lieutenant-Colonel. After the withdrawal from the Upper Nile Valley, his services were transferred to the Red Sea littoral as Governor of Suakim from 1886 to 1888.

In the fighting round Suakim in 1888, Colonel Kitchener took a prominent part, and commanded an Egyptian Brigade at the action of Gemaizah, and again in the fighting (including the action of Toski) on the Soudan Frontier. In the year 1888 he obtained the Brevet of Colonel, and was appointed Adjutant-General of the Egyptian Army. In 1890 he was appointed Sirdar of the Egyptian Army, and set himself to the completion of the military organization which proved so brilliantly successful in the campaigns of 1896 to 1898, which entirely crushed Mahdism in the Soudan Provinces. These operations commenced with the Dongola Expedition of 1896, in which, as in the later campaign, the British and Egyptian forces co-operated under Colonel Kitchener's command. At the close of this service he was promoted Major-General and made K. C. B., (having received the Companionship in 1888,) and given the first class of the Osmanieh. The next step in the re-conquest of the Soudan was the operations in 1897 which resulted in the capture of Abu Hamed. The final blow was delivered in 1898, when the mixed forces of British and Egyptians under General Kitchener's command re-occupied Khartoum after the crushing victory of Omdurman. For this last

General HORATIO HERBERT, VISCOUNT KITCHENER of Khartoum, G.C.B., O.M., G.C.M.G., R.E., Commander-in-Chief in India.

great achievement, General Kitchener received the thanks of both Houses of Parliament, was raised to the peerage with the dignity of a Baron, was voted a grant of £30,000, and received the G. C. B. The outstanding feature of Lord Kitchener's Egyptian campaigns was the thoroughness and completeness of the organization working from a distant base, the whole achieved at a bare minimum of expenditure.

While Lord Kitchener was still in the Soudan engaged in the task of political reconstruction on the debris of the rule of fanaticism, the war in South Africa broke out, and Lord Kitchener was called from these duties to the post of Chief of the Staff to Lord Roberts. The first heavy blow that the Boers received, the capture of General Cronje at Paardeburg on Majuba Day, February 7th, 1900, was in a high degree owing to the energy with which Lord Kitchener threw forward the available forces on Cronje's retreat from the lines of Magersfontein. Throughout the subsequent fighting in the first phase of the war, Lord Kitchener, as the first assistant to the Commander-in-Chief, took a great part in the operations. The concluding phase of Guerilla warfare imposed an even greater strain on him as Commander-in-Chief, and it was finally owing to the inauguration by Lord Kitchener of the blockhouse line system for breaking the country up into sections, with the accompanying "drives," that the long-drawn struggle was at last brought to a close. The course of the peace negotiations at Vereeniging brought out prominently Lord Kitchener's skill as a diplomatist, which went far to soften the bitterness of defeat to the Boers. For these brilliant services, he was promoted Lieutenant-General and General, received a Viscountcy, a grant of £50,000, and the thanks of Parliament.

In November 1902, Lord Kitchener took up the appointment of Commander-in-Chief in India, and his administration has been characterized by wide reforms of the Indian Army system.

The Hon'ble Sir ANDREW HENDERSON LEITH FRASER, M.A., LL.D., K.C.S.I.,
Lieutenant-Governor of Bengal.

The Honourable Sir Andrew Henderson Leith Fraser,

M.A., LL.D., K.C.S.I., Lieutenant-Governor of Bengal.

THE HONOURABLE SIR ANDREW HENDERSON LEITH FRASER, M.A., LL.D., K.C.S.I., was appointed Lieutenant-Governor of Bengal in 1903, after a service in India extending over thirty-two years. During that period he gained a very wide experience of Indian conditions and made his reputation as an administrator.

He was born in Bombay in 1848, his father, the Rev. Dr. A. G. Fraser, acting at that time as a clergyman in the Presidency. He was educated at the Edinburgh Academy. He afterwards went to the Edinburgh University, taking his degree of Master of Arts in 1868. The next year he passed for the Indian Civil Service, and, after two years' probation, incumbent under the old rules, he came out to India in 1871.

The Central Provinces have been the chief scene of Sir Andrew Fraser's labours until his advent to Bengal; and his history is bound up with the progress of those Provinces. As Excise Commissioner, Deputy Commissioner, Secretary, Commissioner and Chief Commissioner of the Central Provinces he succeeded in gaining entirely the sympathy and affection of all classes and winning a wide reputation as a brilliant officer and a firm administrator. In 1893 he was selected by the Government to serve on the Hemp Drugs Commission and, while on that Commission, he traversed the whole of India.

He held the office of Secretary to the Government of India in the Home Department in 1898 and 1899, and he relinquished this appointment at the close of the latter year to succeed Sir Denzil Ibbetson as Chief Commissioner of the Central Provinces. For a long time it had been evident that the Indian Police system was faulty, and Lord Curzon, with his customary energy, decided on appointing a Commission to investigate thoroughly the conditions of the service throughout India.

When Sir Andrew Fraser was selected as Chairman of the Commission, it was universally recognized that its work would be conscientiously and thoroughly done. The labours of the Commission were heavy; evidence had to be taken in every part of India; and it needed the utmost tact and patience to arrive at the truth. The work of the Commission has been embodied in a report that is likely to mark a new era in the Police Service of India. Already many reforms have been founded on its suggestions; and gradually the whole policy of the Police Administration will be shaped from its conclusions. His work as Chairman of this most important Commission considerably enhanced Sir Andrew Fraser's high reputation. While the Commission was still sitting he was appointed Lieutenant-Governor of Bengal. He completed his work on the Commission, however, and then took three months' leave of absence to recruit his health, which had felt the strain of continued effort.

Bengal has always been known as a Province that demands the heaviest labour and self-sacrifice from its Governors. Indeed, the Province had grown to such an extent and the problem of its government become so complicated that the Government of India carried out a scheme for the redistribution of territory with the purpose of bringing the limits of Bengal within reasonable and workable bounds. When it is considered that the population of Bengal is nearly eighty millions, it will be seen that the Government was forced into taking some action. The whole question gave rise to a considerable controversy, and "the partition of Bengal" led to hot protest and discussion. It was not merely a matter of altering borders but one of transferring sections of people from one administration to another.

The question of sentiment entered largely into the matter, and as Indians are peculiarly sensitive to local interests, it can be understood that the practical nature of the proposals were obscured by all manner of side issues that were not contemplated. Sir Andrew Fraser, during the first year of his office, was brought face to face with this important question, involving as it does many issues. The whole argument of the Government of India for the transference of Dacca and Mymensingh and the general redistribution of territory has been fully set out in a letter published in the *Gazette of India* at the close of 1903.

Sir Andrew Fraser has shown considerable activity as Lieutenant-Governor of Bengal. He has made a series of tours throughout the Province, bringing himself into association with local interests with ready sympathy. He has taken his place at the head of the Government with characteristic thoroughness and performed his many exacting official duties with untiring zeal. He has shown himself ready to lend his aid to any worthy movement, and the many speeches that he has made show a wide and statesmanlike grasp of the affairs of Bengal and the Indian Empire. He has been happy in presiding at the St. Andrew's Dinner, and has shown the most vital interest in the religious life of the Province.

His father, who had the distinction of being the oldest Anglican clergyman in India, died in 1904. Almost up to the last day, this grand old man of ninety-one worked with splendid vigour at Nagpore and Calcutta. The utmost sympathy was felt throughout Bengal for Sir Andrew Fraser in his great personal loss.

The big question of Education naturally attracted the attention of the Lieutenant-Governor. He initiated the idea of establishing a large college at Ranchi, Chota Nagpur. This notable scheme has won the sympathy of the Indian community, for whose benefit it was framed. Primary Education is also being systematized. The Drink question, especially among the native community, became an increasingly serious one. Sir Andrew Fraser showed his sympathy with the reformers, who were working to check the habit before it gained too strong a hold on the people. Local Self-Government, Police reform, and the relation of Landlord and Tenant also occupy much of his attention. Nothing but admiration is heard for Sir Andrew Fraser's energy and ability and the pains that he has taken to identify himself with the interests of the people.

He was created K.C.S.I. in 1903. Sir Andrew Fraser married, first in 1872, Agnes, daughter of R. Archibald, Devondale, Tillicoultry, who died in 1877; and in 1883, Henrietta, daughter of Col. H. I. Lugard, Indian Staff Corps. Lady Fraser has always warmly supported her husband in his important duties.

The Hon'ble Sir CHARLES MONTGOMERY RIVAZ, K.C.S.I.,
Lieutenant-Governor of the Punjab.

THE HON'BLE SIR CHARLES MONTGOMERY RIVAZ, K.C.S.I.,

Lieutenant-Governor of

The Punjab and its Dependencies.

CHARLES MONTGOMERY RIVAZ, son of the late John Theophilus Rivaz, of the Bengal Civil Service, and Mary, daughter of the late William Lambert, also of the Bengal Civil Service, was born in 1845. He was educated at the Blackheath Proprietary School, and joined the Indian Civil Service in 1864 at the age of 19. In 1874 he married Emily, daughter of the late Major-General Agnew, of the Bengal Staff Corps.

On first entering the service, he was posted to the Punjab. For a few years he served as Assistant Commissioner and as Deputy Commissioner in some of the most important districts. This was followed by a period of service in the Secretariat. He afterwards became Superintendent of the Kapurthala State, where, for upwards of eight years, he did splendid service. Rising rapidly in the higher grades of the Commission, he became in turn Commissioner of the Lahore Division, Second Financial Commissioner and First Financial Commissioner. In 1898 he became a Member of the Supreme Council of the Governor-General, where he remained practically without a break for a period of four years, when he was appointed Lieutenant-Governor of the Punjab and its Dependencies at the age of 57. He received the title of C.S.I. in 1875, and was created K.C.S.I. in 1901. His 38 years of arduous and honourable service, with less than five years' leave, might well be considered a life's work, but the spirit of the man was such that it needed but the crowning gift of the highest appointment in the service to carry him into a further period of service. To-day, as he is within measurable distance of the time when he must give up the reins of Government, he seems as fresh as when he took them up five years ago. When Sir Charles took over charge of the office of Lieutenant-Governor of the Punjab and its Dependencies, the Province was by no means in a settled condition. The Land Alienation Act of 1900 had just come into force. The measure was directed against the evils involved in the transfer of land from the cultivating classes to money-lenders. Fears of all kinds were expressed as to the working of the Act, more especially in its relation to the price of land. It is now felt that there is little danger of these fears being realized. What might be called a second disturbing element was the severing of those districts inhabited chiefly by Pathans to form a new Province. In both these cases, however, Sir Charles has guided the affairs of the Province with such statesmanship that no disturbance of any kind has resulted. Sir Charles was appointed to the Viceroy's Education Commission of 1901. To this may be attributed, to some extent, the keen interest he has since evinced in the educational development of the Province, as an example of which may be mentioned the fact that over a thousand primary schools have been opened during his administration, and upwards of 27,000 boys and 5,000 girls have been added to the school-going population. During the later period of his term of office Sir Charles has taken in hand the growing evils of the cocaine habit and of intemperance generally, and measures have been taken to check their growth. In the spring of 1905 he was on the point of taking a short furlough to England to recruit his health, when the world was startled by the news of the terrible earthquake which devastated the Kangra Valley on the 4th of April. He deferred his departure, and, though sorely needing rest, went himself to the scene of the disaster and inaugurated the system of relief, for which the magnificent sum of over fifteen lakhs of rupees was raised. It fell to the lot of Sir Charles and Lady Rivaz to entertain Their Royal Highnesses the Prince and Princess of Wales during their tour in Northern India in the autumn of 1905.

Sir JAMES JOHN DIGGES LATOUCHE, B.A., K.C.S.I.,
Lieutenant-Governor of the United Provinces of Agra and Oudh.

THE HON'BLE SIR JAMES JOHN DIGGES LATOUCHE,

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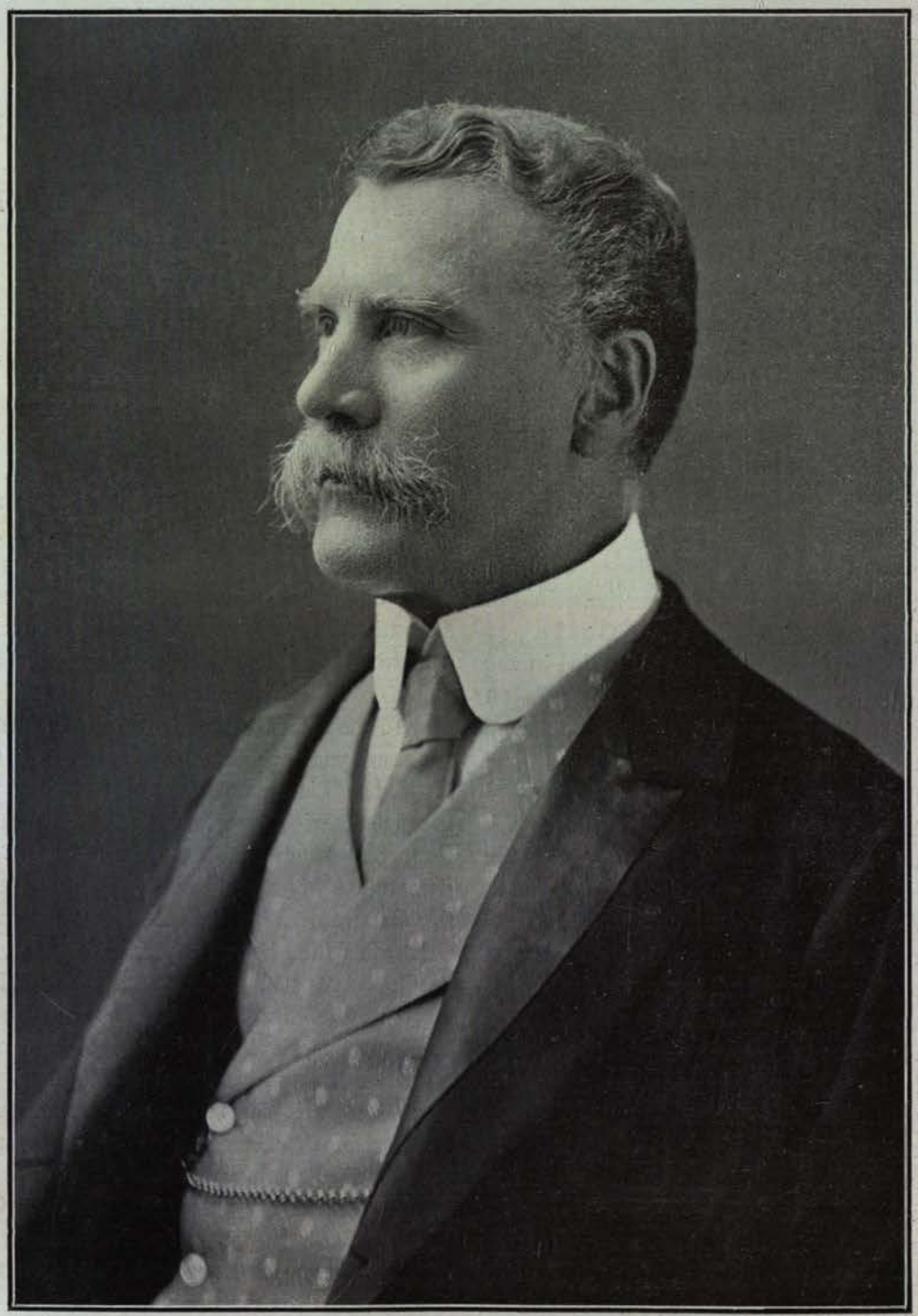
Lieutenant-Governor of the United Provinces of Agra and Oudh.

THE HON'BLE SIR JAMES JOHN DIGGES LATOUCHE, B.A., K.C.S.I., Lieutenant-Governor of the United Provinces of Agra and Oudh. Sir James LaTouche was born in the year 1844 and educated at Trinity College, Dublin. He joined the Indian Civil Service in the year 1867 on 31st August, and arrived in India on 4th December, in the same year. He was attached to the then North-West Provinces. His first appointment was as Assistant Magistrate and Collector in the Meerut Division. In 1869, he took up Settlement work and was put in charge of the Pilibhit Sub-Division. He was posted to Aligarh in 1871 as Assistant Settlement Officer, 3rd grade. In December of the same year his services were placed at the disposal of the Government of India, and he was successively Assistant Commissioner of Beawar and Deputy Commissioner of Ajmer. In 1875, he was transferred to the North-West Provinces and with the substantive rank of District Superintendent of Police, 1st grade, officiated as Magistrate and Collector, Bulandshahar, Settlement Officer, Jhansi, and Joint Magistrate and Deputy Collector, 1st grade, Muttra. He then in 1878-79 proceeded on twenty months' furlough to Europe. Rejoining on 27th November 1879 he served in various appointments as Magistrate and Collector and District and Sessions Judge, with one break of leave to Europe at Moradabad, Banda and Gorakhpur till 1886 when he was transferred to Burma as Commissioner of the Southern Division, Upper Burma. In April 1890, his services were replaced at the disposal of the Government of India and after furlough to Europe from April to December 1890, he was appointed Commissioner of Allahabad. In 1891, Sir James was posted to the North-West Provinces and Oudh as Chief Secretary to the local Government and in December of the same year appointed a Member of Council of H. H. the Lieutenant-Governor. In 1893, he held the post of Commissioner and Agent to the Governor-General at Benares and in the same year reverted to his appointment as Chief Secretary to the Government of the North-West Provinces and Oudh, in which he was made substantive. After a year's leave and furlough out of India he was appointed Officiating Member of the Board of Revenue on 7th December 1896, and on the 30th of the same month, Senior Member, Board of Revenue. His services were again placed at the disposal of the Government of India in December 1897, when he was appointed Additional Member of the Council of the Governor-General. On the 7th May 1898, Sir James LaTouche received the dignity of Lieutenant-Governor and Chief Commissioner of the United Provinces which he continues to hold to the present day. On the 9th November 1901, he was invested with the Insignia of a Knight Commander of the Star of India.



The Hon'ble Mr. LANCELOT HARE, C.I.E.,
Lieutenant-Governor of the Province of Eastern Bengal and Assam.

THE HON'BLE MR. LANCELOT HARE, C.I.E., C.S.I.,

Lieutenant-Governor of

The Province of Eastern Bengal and Assam.

THE HON'BLE MR. LANCELOT HARE, C.I.E., C.S.I., was appointed Lieutenant-Governor of the Province of Eastern Bengal and Assam in August 1905. Mr. Lancelot Hare was born in London on January 7th, 1851, and is the youngest son of Thomas Hare of Hook, Surrey. He joined the Indian Civil Service on 3rd July 1873, and arrived in India in November of the same year. He was appointed Assistant Magistrate and Collector of Dacca on the 17th November. Next year he worked for five months on famine relief duty in Bankura. In 1875 his services were placed at the disposal of the Chief Commissioner of Assam and he was posted to Sylhet.

He held officiating appointments in Sylhet and Cachar as Assistant Commissioner, and in 1879 he was appointed Assistant Secretary to the Chief Commissioner. He also officiated as Secretary to the Chief Commissioner of Assam and also as Inspector-General of Police for a short period. In 1881 his services were transferred to Bengal and he was appointed Assistant Magistrate and Collector of Rajshahi. From 1884 he acted as Joint Magistrate and Deputy Collector of Purnea, Jessore, Hooghly, Burdwan and Dacca, officiating on occasions as Magistrate and Collector. In 1890 he was confirmed in the appointment of Magistrate of Dacca, and he officiated as Commissioner of the District in addition to his other duties. In 1892 he went on furlough, and on his return he was posted to Mozufferpore as Magistrate and Collector. Here he held charge during the Famine of 1896-97. In 1897 he officiated as Commissioner of Dacca for some months. In 1898 he again went on furlough. In 1899, after his return from one year and seven months' furlough, Mr. Hare officiated as Commissioner of Excise, Bengal, for about six months. In 1900 he officiated as Commissioner of Patna and was confirmed in November of that year in that appointment. In February 1903 he was appointed temporarily Chief Secretary to the Government of Bengal, and on April 15th of the same year he officiated as a Member of the Board of Revenue. On the retirement of Mr. Buckland in 1904 he was confirmed in that appointment and was appointed Chairman of the Calcutta Port Commissioners. Mr. Hare has had thirty years of varied experience of administration in the Indian Civil Service, and his career has been marked throughout by great ability. He was educated first at Hurstpierpoint, Sussex, and completed his education at the City of London School. In 1881 he married the eldest daughter of General Nation. In 1900 he was decorated with the C.I.E. for his services in India and in 1906 with the C.S.I.

THE HON. SIR FRANCIS W. MACLEAN, K.C.I.E., K.C.,

Chief Justice of Bengal.

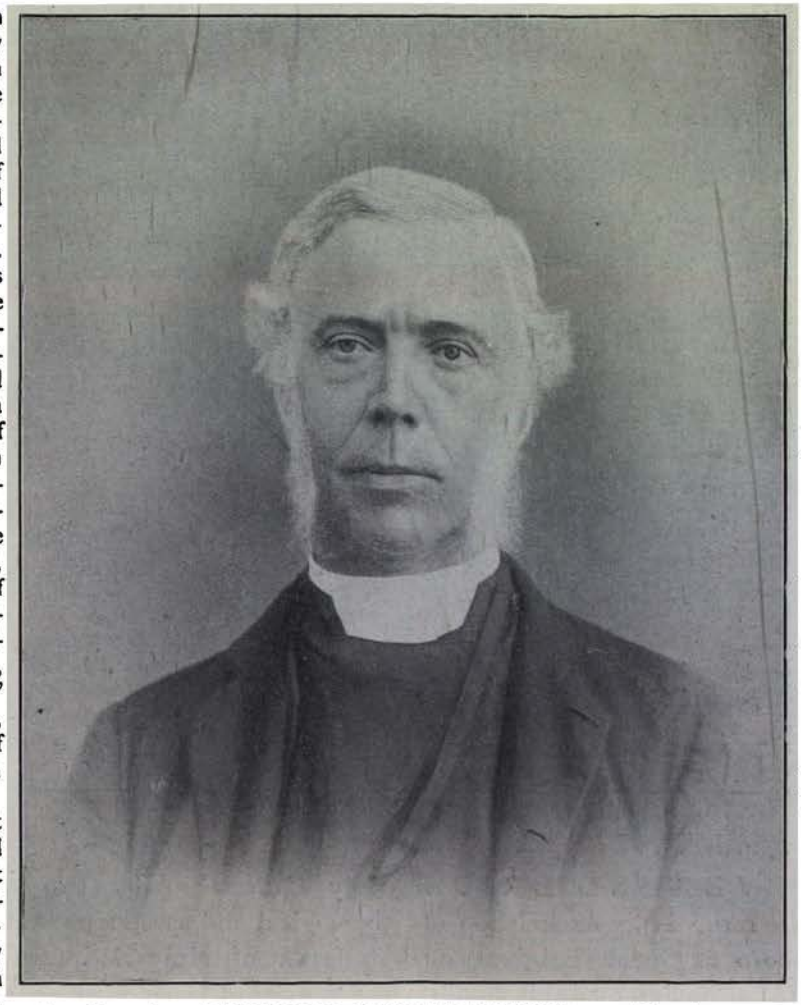
THE HON. SIR FRANCIS W. MACLEAN, K.C.I.E., K.C., Chief Justice of Bengal, is the third surviving son of the late Alexander Maclean, Esq., of Barrow Hedges, Carshalton, Surrey, and was born in December, 1844. He was educated at Westminster and Trinity College, Cambridge, at which University he graduated B.A., in the Classical Tripos of 1866, and M.A., in 1870. After taking his degree in 1866, he entered on the study of the Law, becoming a pupil of Mr. Lindley (now Lord Lindley), one of the Lords of Appeal in ordinary. Called to the Bar by the Inner Temple in 1868, he practised at the Chancery and Parliamentary Bars, was appointed a Queen's Counsel by the late Lord Herschell in 1886, and elected a Bencher of his Inn in 1892. At the General Election of 1885, as a Liberal and follower of Mr. Gladstone, he was returned to the House of Commons, as member for the Woodstock Division of Oxfordshire. In 1886 he declined to follow that distinguished statesman in his Home Rule Policy, and joining the Liberal Unionist Party under the leadership of Lord Hartington, was returned unopposed for his old constituency at the General Election of that year. He spoke but seldom in the House of Commons, but was a frequent speaker on political platforms throughout the country, and accompanied Mr. Chamberlain on his tour through Ulster in 1888. In the same year he was appointed a member of the Royal Commission on Market Rights and Tolls. In 1891, upon accepting the office of a Master in Lunacy, vacated by the appointment of Sir Alexander Miller, C.S.I., to be Legal Member of the Viceroy's Council, he resigned his seat in Parliament In 1896 he was appointed Chief Justice of Bengal, was knighted at Balmoral in October of that year, and assumed office at Calcutta in the following November. Early in 1897, he was invited by the Earl of Elgin to become Chairman of the Executive Committee of the Indian Famine Charitable Relief Fund, and in recognition of his services in that capacity was created a Knight Commander of the Indian Empire in 1898. He was appointed Vice-Chancellor of the University of Calcutta in the same year. In 1900 he again accepted, at the instance of Lord Curzon, then Viceroy of India, the Chairmanship of the Executive Committee of the Indian Famine Charitable Relief Fund, and in 1901 was amongst the first recipients of the Kaiser-i-Hind Gold Medal, for his public services to India in connection with the Famine of 1900-1.

The Hon'ble Sir FRANCIS W. MACLEAN, K.C.I.E., K.C., Chief Justice of Bengal.

The Most Rev. Reginald Stephen Copleston, B.A. (Oxon.), D.D.,

Lord Bishop of the See of Calcutta and Metropolitan in India and the Island of Ceylon.

THE MOST REV. REGINALD STEPHEN COPLESTON, Bishop of the See of Calcutta and Metropolitan in India and the Island of Ceylon, was born in 1845. The Lord Bishop is the eldest son of the Rev. R. E. Copleston, Vicar of Edmonton, Middlesex, and was educated at Merton College, Oxford, where he took his B.A. in 1869. Contemporary with Bishop Copleston in his College days were Bishop Mandel Creighton (London), and Bishop Richardson of Zanzibar, Fellow and Tutor of St. John's College, 1869 to 1875. Bishop Copleston was consecrated to the See of Colombo on December 28th, 1875, at Westminster Abbey, and transferred to Calcutta on the resignation of Bishop Welldon in 1902. Bishop Copleston's literary achievements have lain in the direction of the Classics, and he is the author of "Æschylus" in "Classics for English Readers" and "Buddhism, Primitive and Present." He married in 1882, Edith, daughter of Archbishop Trench (Dublin).



THE MOST REV. REGINALD STEPHEN COPLESTON, B.A. (Oxon.), D.D., Lord Bishop of the See of Calcutta and Metropolitan in India and the Island of Ceylon

In writing this short sketch of the Lord Bishop of Calcutta, it may not be uninteresting to recall a few incidents in the history of the Bishopric which is the most ancient in the East Indies. The first holder of the See was Thomas Fanshaw Middleton, who was appointed in the year of Grace, 1814. In the interesting language of such documents, the letters patent of that date set out that—"Whereas the doctrine and discipline of the United Church of England and Ireland are professed and observed by a considerable portion of Our loving subjects, resident within our territories under the Government of the United Company of Merchants of England trading to the East Indies. And whereas no sufficient provision has been made for the supply of persons duly ordained to officiate as Ministers of the United Church of England and Ireland within the said territories and our aforesaid subjects are deprived of some offices prescribed by the liturgy and usage of the Church aforesaid, for want of a Bishop residing within the same. For remedy of the aforesaid inconveniences and defects We have determined to erect the aforesaid territories into a Bishop's See, and we do by these presents erect, found, ordain, make, and constitute the said British Territories in the East Indies to be a Bishop's See, and to be called henceforth *the Bishopric of Calcutta.*" The same letters patent appointed Archdeacons at Madras and Bombay under the Bishop of Calcutta. The Provinces of Madras and Bombay were placed under charge of separate Bishops thirty years later—Madras on the 13th June, 1835, and Bombay on the 1st of October, 1837.

Calcutta has been fortunate in having a succession of exceptionally interesting personalities in the divines who have filled the See. Bishop Copleston's predecessors were Thomas Fanshaw Middleton, 1814; Reginald Heber, 1823; John Thomas James, 1827; John Mathias Turner, 1829; Daniel Wilson, 1832; George Edward Lynch Cotton, 1858; Robert Milman, 1867; Edward Ralph Johnson, 1876; and James Edward Cowell Welldon, 1899.

The Most Reverend Dr. Brice Meuleman, D.D., S.J.,

Roman Catholic Archbishop of Calcutta.

THE MOST REVEREND BRICE MEULEMAN, D.D., S.J., Archbishop of Calcutta, was born at Ghent (Belgium) on the 1st March 1862. After having made his studies in the Jesuit College of his native town, he joined the Society of Jesus on the 24th September 1879 and came out to India at the end of 1886. For some years he was Lecturer of Philosophy and Political Economy in the College of St. Francis Xavier, Calcutta. In January 1895 he received Holy Orders. After two years more spent in theological and ascetic pursuits he was appointed Professor of Holy Scripture at the Seminary of the Society of Jesus, Kurseong, and became Rector of the said Seminary in 1899. Towards the end of 1900 he was appointed Regular Superior of the Jesuit Mission of Western Bengal. On the 21st March 1902 he was nominated Archbishop of Calcutta, and on the 25th June consecrated and enthroned in the Cathedral Church at Calcutta.

Official.

Lieut.-Col. A. W. ALCOCK, C.I.E., M.B., LL.D., F.R.S., is the second son of the late John Alcock, Esq., of Lee, Kent. He was born on the 23rd June 1859, and received his education at Blackheath and at Westminster School. For his medical course he proceeded to Aberdeen University, where he graduated M. B. with honourable distinction, and was appointed Assistant Professor of Zoology under the late

Professor Alleyne-Nicholson, F.R.S., which post he held between the years 1883-1885. In October 1885, Colonel Alcock entered the Indian Medical Service and served with the Punjab Frontier Force, whence he was transferred in 1888 to the Marine Survey of India as Surgeon Naturalist, a position which he held till 1892. In this year he was appointed Deputy Sanitary Commissioner of the Metropolitan and Eastern Bengal Circle. In the following year he became Superintendent of the Natural History Section of the Indian Museum, Calcutta, and Professor of Zoology at the Medical College of Bengal, and he has since filled both these posts till the present day, with one break when he acted as Surgeon Naturalist to the Pamir Boundary Commission of 1895. Colonel Alcock is a Corresponding Member of the Zoological Society of London and an Honorary Member of the Zoological Society of the Netherlands, and of the Californian Academy of Sciences. Outside of his official work he is known as the author of numerous papers and monographs dealing chiefly with Marine Zoology and Zoogeography. He is married to Margaret, third daughter of the late J. R. Cornwall, Esquire, of Aberdeen.

The Hon'ble Mr. CHARLES GEORGE HILLERSDEN ALLEN, I.C.S., was born at Leicester, England, on the 20th of June 1864, and educated first at Haileybury and subsequently at Balliol, Oxford. He joined the Civil Service on the 24th September 1885 and arrived in India on the 6th December 1885, his first posting being to Patna as Assistant Magistrate and Collector on the 6th January 1886. Mr. Allen served in the same capacity, for short periods, in the Champaran and Rangpur Districts, and in 1888 was transferred to Chittagong where he remained for ten years. During the last seven years of this period, Mr. Allen was engaged in the Survey and Settlement of the Chittagong District, an arduous task which involved the survey of an area of 2,000 square miles, and the record of the rights of more than 650,000 agriculturists. These operations extended over a period of ten years and cost sixteen lakhs of rupees. Upon their successful conclusion, Mr. Allen was posted as Magistrate and Collector of the 24-Parganas District, an office which he held for three years.

On return from furlough at the end of 1901, Mr. Allen served for eighteen months as Director of

Land Records and Agriculture, and was then appointed to be Provincial Superintendent for Bengal in charge of the revision of the Imperial Gazetteer of India.

As Chairman of the Calcutta Corporation, in which appointment he was made permanent on the 16th October 1905, Mr. Allen controls the machinery of a complex Institution requiring the exercise of great

administrative tact and ability, with credit to himself and advantage to the citizens.

Dr. NELSON ANNANDALE, Deputy Superintendent of the Indian Museum, Calcutta, eldest son of Professor T. Annandale, F.R.C.S., born at Edinburgh, June 15th, 1876; educated at Rugby School, the University of Edinburgh and Balliol College, Oxford; graduated B.A. at Oxford, 1899, and D.Sc. at Edinburgh (*in absentiâ*), 1905. He spent the years between 1899 and 1904 as a research student in the University of Edinburgh and travelling in the East and in Northern Europe. In 1904 he came out to India to assume his present post. Dr. Annandale is a corresponding member of the Zoological Society of London, a Member of the Anthropological Institute, and Anthropological Secretary of the Asiatic Society of Bengal. Publications—"The Faroes and Iceland: Studies in Island Life," 1905; "Fasciculi Malayenses—Anthropological and Zoological Results of an Expedition to Perak and the Siamese Malay States," 1903-1906 (with Mr. H. C. Robinson); and numerous papers on anthropology

and zoology in the Journal of the Anthropological Institute, the Proceedings of the Royal Society of Edinburgh, and of the Zoological Society of London, the Memoirs and Journal of the Asiatic Society of Bengal, the Scottish Geographical Magazine, etc.

Mr. GEORGE FREDERICK ARNOLD, I.C.S., Deputy Commissioner,

Burma, Acting Deputy Secretary, Legislative Department, Government of India, was born at Winchester in the year 1870, educated at Merchant Taylor's School and at Queen's College, Oxford, at which latter he took a Scholarship. He gained a first class at the final classical school, Oxford. He joined the Civil Service and came to India in the year 1893. His first post was as Assistant Commissioner in Burma, and he was subsequently appointed to the Burma Secretariat, where he held the post of Under-Secretary for three years. His next service was as Deputy Commissioner and District and Sessions Judge in Burma, from which Province he was transferred to Calcutta to join his present appointment in the year 1906.

The Hon'ble Mr. EDWARD NORMAN BAKER, C.S.I., I.C.S., who was appointed Financial Member of the Viceroy's Council in January 1905, has had a distinguished career as a Civilian. His wide experience and ability leave no doubt as to the good work he will do as successor to Sir Edward Law. As Collector of Customs, Calcutta, he was brought into touch intimately with the commercial conditions of India, and was afforded a wide opportunity of studying the vast and growing trade of Bengal. It is rarely that an official finds time or opportunity to acquaint himself with the intricacies of the business world, and it is evident that a man who holds so important a post as Financial Member of the Viceroy's Council could have had no better training. Month by month, the commerce of India is increasing in importance, and though the recent appointment of a Commercial Member to the Viceroy's Council recognizes the problem, it is plain that a Financial Member with a complete knowledge of business and methods is well equipped to deal with big questions of finance. Under modern conditions, it is growing impossible to disassociate commerce from any question of policy in India. Mr. Baker has served as Deputy Commissioner, Deputy Secretary to the Government of India (Finance and Commerce Department), Collector of Customs, Calcutta, Financial Secretary to the Government of Bengal, and Secretary to the Government of India in the Depart-

ment of Finance and Commerce. He has served as a Member of the Bengal Council. Born in 1857, the Financial Member is a comparatively young man. His training and

service and the reputation he has made, are guarantees of work that is expected from him in his very responsible post.

Doctor CHARLES BANKS (*Surgeon-Captain, 1st Batt., Calcutta Vol. Rifles*), was born in Ayrshire, Scotland, on 11th April 1863, and received his medical education at Glasgow University, where he obtained the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.) in 1886, and the degree of Doctor of Medicine with commendation in 1895.

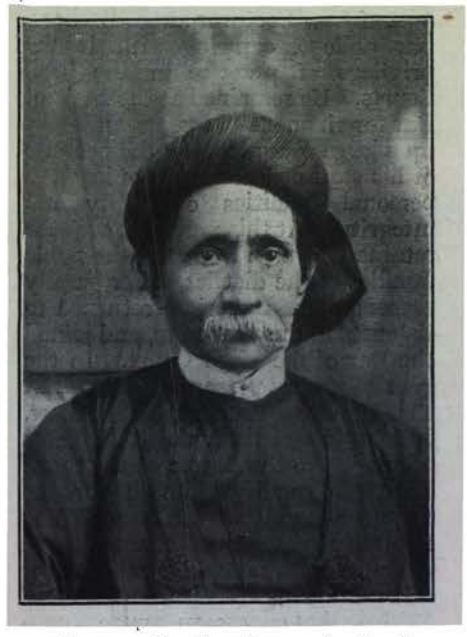
Dr. Banks, after graduation, acted as *locum tenens* in the west end of Glasgow, and afterwards in the Parish of Dreghorn, in which

he was born, and for a short time practised in Dalkeith near Edinburgh. Towards the end of 1887 he made a voyage to Calcutta in the S.S. *Clan Mackenzie* as Ship's Surgeon. In 1890 Dr. Banks was selected by the coffee planters of South Coorg, Mysore, for the appointment of District Medical Officer to the planters, and practised amongst them for nearly two years. Before proceeding to take up his appointment he obtained the Diploma in Public Health of the Faculty of Physicians and Surgeons, Glasgow. Having been offered an appointment as an Uncovenanted Civil Medical Officer under the Government of Bengal, Dr. Banks left Southern India in 1892, and his services were placed permanently at the disposal of the Government of Bengal in November 1893. Dr. Banks has been Civil Surgeon of Monghyr and Puri; at the latter place he was also for three and-a-half years Chairman of the Municipality. His services were, in October 1896, placed temporarily at the disposal of the Corporation of Calcutta for special duty in connection with the outbreak of Bubonic Plague in that city. In May 1897 Dr. Banks received the substantive appointment of Protector of Emigrants and Superintendent of Emigration in Calcutta, and has held this appointment since then, except during his privilege leave in 1899, deputation to Karachi and Bombay in connection with emigration to Uganda in July 1900, and seventeen months' furlough in 1902-03. Since his appointment as Protector of Emigrants, Dr. Banks has acted as an additional Health Officer of the Port of Calcutta for a period of four years, and for five months as Health Officer of the Port, in addition to his own duties. He has also acted twice, in addition to his own duties, as Second Resident Surgeon of the Presidency General Hospital. Dr. Banks has contributed considerably towards professional literature, being the author of a "Manual of Hygiene for use in India," "The Vaccinator's Help" and a thesis on "Epidemics of Cholera in India with special reference to their immediate connection with pilgrimages," and has also published several papers in the *Indian Medical Gazette* and other journals, including papers on "Sanitary progress in Puri" and "Free Vaccination."

He has also served as one of the City Fathers, having been a nominated member of the Calcutta Corporation from 1898 until 1902, when he went on furlough. In 1901 Dr. Banks was elected one of the Trustees of the Indian Museum, and acted as Honorary Secretary to the Board of Trustees during that year, and on vacating the post received a cordial vote of thanks from the President and Vice-President and his Co-trustees, in recognition of the able services he had rendered during his tenure of office. Dr. Banks has also acted as Local Secretary, in Bengal, to the Pasteur Institute at Kasauli.

During the seven months of his deputation on Plague duty with the Corporation of Calcutta, he found time to write several reports on the insanitary condition of the City of Calcutta, and these papers have been of much importance and considerable value to the authorities in dealing with the sanitation of the city. Dr. Banks has been a Volunteer during most of his residence in India and is at present Medical Officer of the 1st Battalion, Calcutta Volunteer Rifles.

Sir GOOROO DASS BANERJEE, late Judge of the High Court of Fort William in Bengal. This

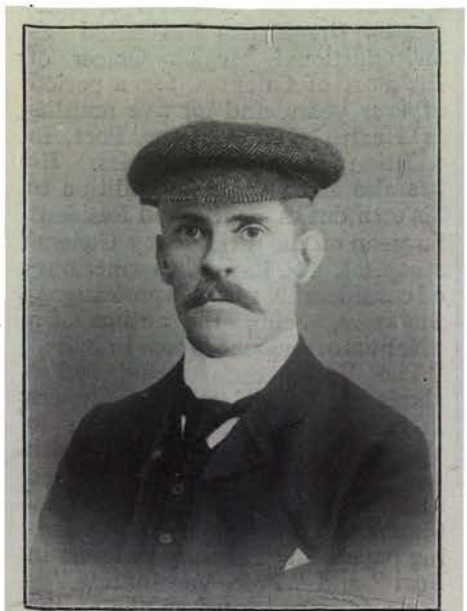


gentleman is the descendant of a respectable Brahmin family settled in Calcutta. He was born in the year 1844 at Narikeldanga in the suburbs of that city. His father was head clerk in the firm of Messrs. Kar and Tagore, afterwards incorporated with Messrs. Gordon, Stewart & Co. The youth had the misfortune to lose his father at an early age, and was brought up by his mother, to whose care and attention he was wont to ascribe much of his success in later life. He received his education at the Hare School at Calcutta, and being diligent and studious, his school career gave promise of his future distinction. Upon matriculating, he secured a

scholarship which carried him to the Presidency College, where he came out at the top of the list at the First Examination in Arts, and subsequently took his degree of Bachelor of Arts, again taking the premier place among the candidates. In the year 1865, he obtained his degree of Master of Arts and was awarded the University Gold Medal in Mathematics. After the close of his collegiate career, he was offered and accepted the post of Lecturer in Mathematics at the Presidency College. After a short time he went up for the B. L. Examination, in which he again took his accustomed place at the head of the list and won the University Gold Medal in Law; and he was enrolled a Vakeel of the High Court in 1866. He then secured the post of Law Lecturer at the Berhampur College, carrying with it the privilege of practice in the local Courts. He remained at the District Bar for the next six years and built up a large practice by the exercise of his sterling knowledge of law and personal qualities of ability and integrity. At this period he was the retained legal adviser of the noble families of the district. For family reasons, Mr. Banerjee returned to Calcutta in the year 1872, and joined the Bar of the High Court. In the year 1876, he presented himself at the Honours Examination in Law, and obtained from the University admission to the degree of Doctor of Law. To qualify himself for the degree he wrote a thesis on "The necessity of religious ceremonies in Adoption" and another on the "Hindu Law of Endowments." Both these essays were considered masterly expositions of the subjects. In 1878, Dr. Banerjee was Tagore Law Professor. His lectures on the Hindu Law of Marriage and Stridhana in that capacity formed a valuable addition to legal lore and were published in volume form. In 1879, Dr. Banerjee was made a Fellow of the Calcutta University and an Examiner in the B. L. Examination. He was elected Representative of the Faculty of Arts in the Syndicate in 1885-8. In 1886, he was elected a Municipal Commissioner for the Suburbs of Calcutta and was appointed Honorary Presidency Magistrate, and in 1887 appointed a member of the Bengal Legislative Council. It was in 1888 that he was raised to the highest honour in the legal profession and appointed an acting Judge of the High Court, the appointment being confirmed six months later. During sixteen years which succeeded his elevation, he was noted as an exemplary Judge. His profound knowledge of law was admitted on all hands, and his character for fearlessness and impartiality stood very high. He always took a deep interest in education, and he held the post of Vice-Chancellor of the Calcutta University from 1889 to 1892.

In 1902 he was appointed a member of the Indian Universities Commission.

He is the author of several educational works, of which the one entitled "A few thoughts on Education" may be mentioned in particular.



Major COLLIS BARRY.

Mr. PHILIP LONGUEVILLE BARKER, B.A., I.C.S., Under-Secretary to the Government of the Punjab, was born in 1874. He was educated at Charterhouse and Corpus Christi College, Oxford, and was appointed to the Indian Civil Service after examination of 1897. He arrived in India on the 28th of November 1898, and served in the Punjab as Assistant Commissioner; was appointed Under-Secretary to the Punjab Government in May 1903. He officiated as Under-Secretary to the Government of India, Home Department, October to December 1904.

Major COLLIS BARRY, I.M.S., M.R.C.S., L.R.C.P., F.R.S.E., F.I.C., was born in the year 1862 at Norwich, and received his medical training at Liverpool Medical School and University College. He joined the Indian Medical Service on 31st March 1887, and arrived in India on 2nd November in the same year. He was at first attached to Colaba Station Hospital, and in May 1888 was appointed to the medical charge of the 4th Rifles. In September of the same year he was transferred to the post of Staff Surgeon, Asirgarh Fort. In May 1889 he obtained the appointment of Chemical Analyser to Government and Professor of Chemistry at the Grant Medical College and Elphinstone College, and Professor of Medical Jurisprudence at the Grant Medical College. He is the author of "Legal Medicine," a work of standing.

The Hon'ble Mr. Justice STANLEY LOCKHART BATCHELOR, B.A., I.C.S., Puisne Judge, High Court, Bombay, was born in 1868 at Norwich, Norfolk, and was educated at St. Edmund's College, Ware, Herts; and at University College, London, where he took his B.A. degree. Passing the Indian Civil Service Examination in 1887, he arrived in India on the 1st December 1889 and was posted to Bombay as Assistant Collector and Magistrate, which post he held till May 1896, when he was appointed Second Collector and Magistrate, and after five months, in September of the same year, was translated to another sphere as Under-Secretary to the Government, Political Department. He served in that capacity till 1900, when he was promoted First Assistant Collector and Magistrate, and subsequently elevated to the responsibility of District and Sessions Judge in November 1901. He was appointed Judge of the High Court in September 1904.

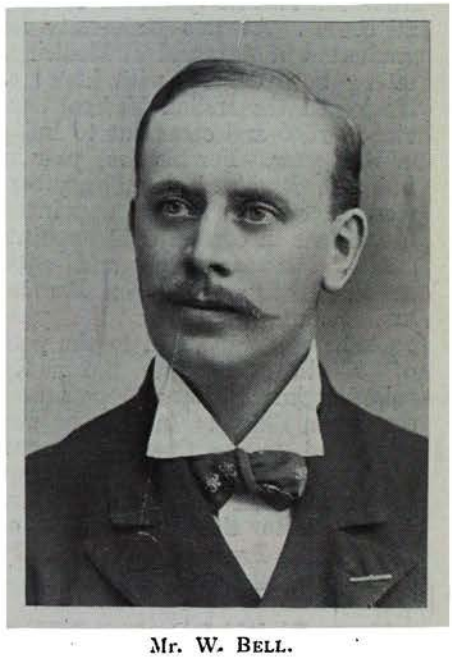
Mr. CHARLES BUTTERWORTH BAYLEY, M.V.O., Assistant Secretary in the Public Works Department of the Government of

Bengal, is the fourth son of Sir Steuart Bayley, K.C.S.I., C.I.E., late Lieutenant-Governor of Bengal and Member of the Council of the Secretary of State for India. He was born on 7th September 1876 and received his education at Blundell's, Tiverton, Devonshire. In 1893 he joined the London Office of Messrs. Ogilvy, Gillanders & Co., where he remained for two years. He left this firm to proceed to India in the year 1895 and joined Mr. George Garth in Zemindary management at Dacca. In the year 1899 he was offered and accepted a post in Government service in his present position. In 1903 he acted as Secretary to the Luff Point Commission, and in 1904 he acted as Extra Assistant Collector of Customs, Calcutta. In June of the latter year he proceeded to Tibet as special correspondent of the London *Daily Telegraph* and the Allahabad *Pioneer*. For this he received the Tibet Medal. Returning to India he again entered upon his duties, and at the time of the visit of the Prince and Princess of Wales was asked by the Chamber of Commerce to act as Honorary

Mr. C. B. BAYLEY.

Secretary to the Royal Reception Fund. The Government placed him on special duty in connection with their Royal Highness's visit, and for his services he was decorated with the M. V. O.

Mr. W. BELL, M.A., C.I.E., Indian Educational Service, Director of Public Instruction, Punjab. Born 1860; graduated at Edinburgh University. Joined the service, 16th October 1885, as Prin-



Mr. W. BELL.

cipal of the Central Training College, Lahore; Professor in the Government College there, March 1888; Principal, April 1892; Inspector of Schools, Lahore Circle, October 1896; Director of Public Instruction, Punjab, and Under-Secretary to Government, Educational Department, November 1901; Member, Simla Educational Conference, 1901; local Member, Indian Universities Commission, 1902; Inspector of Chiefs' Colleges in India, 1903; Inspector-General of Reformatory Schools, Punjab, 1904; C.I.E., January 1904.

Mr. CHARLES HENRY BERTHOUD, B.A. (New College, Oxford), I.C.S., Deputy Commissioner, Naini Tal, and Chairman of the Naini Tal Municipal Board, was born in Essex, England, May 31st, 1872, and educated at Uppingham and New College, Oxford. Mr. Berthoud entered the Indian Civil Service in the usual manner in the year 1895, and arrived in India on 4th December of the same year. Till the year 1900, he held his substantive rank of Assistant Magistrate and Collector, and on 24th February of that year was appointed to officiate as Under-Secretary to Government, a post which he held for four months. His next appointment was as City Magistrate, Lucknow, which he held for two years and six months, being appointed to officiate as Deputy Commissioner at the expiry of that period. In 1905, he was appointed to officiate as Additional District and Sessions Judge, and later in the same year was transferred to Naini Tal in his present appointment.

Mr. R. A. D'O. BIGNELL, late Commissioner of Police, Calcutta, was born at Herne Bay, Kent, on 16th September, 1847. He joined the Bengal Police Service in 1866, and in that year was appointed Probationary Assistant Superintendent of Police at Birbhum. In 1867 Mr. Bignell was appointed as Assistant Superintendent, Police, in Balasore, and the next year he officiated as District Superintendent. In 1868 he was appointed special Assistant Superintendent of Police for the prevention of the smuggling of salt. In 1870 Mr. Bignell was stationed on duty with

Mr. C. H. BERTHOUD.

the Police Guards on the Eastern Frontier, and he was awarded the Lushai Frontier Medal and Clasp. For two years Mr. Bignell acted as Assistant Superintendent of Police

in Chittagong, and in 1873 he acted as Special Assistant Superintendent of Police in Hill Tippera. In 1877 he was placed in charge of the District Police of the Sonthal Parganas, and in 1880 he was in charge of the City

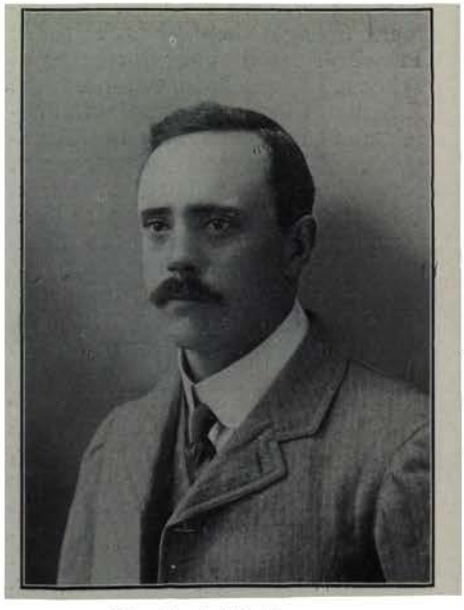
Captain J. A. BLACK.

Police of Patna. In 1884 his services were placed at the disposal of the Cooch Behar State, and in 1889 he was appointed District Superintendent of Police, 4th grade. In 1900 Mr. Bignell was appointed to the 1st grade, and in 1901 he was appointed Deputy Inspector-General of Police. On the 16th January 1902, he received the appointment of Commissioner of Police, Calcutta.

Mr. Bignell in this trying and responsible office displayed great ability and tact. The police control of an immense city like Calcutta with its variety of peoples is an exacting problem that demands the closest study. Of necessity there is a big floating population, and the paths of crime are devious. In the lower grades the police of India are very difficult material to work with, and the most trying part of the work of a Police Commissioner is the disciplining of his Native subordinates. That Calcutta should be so free from violent crime is an eloquent testimony to the care and work of the Commissioner of Police and his immediate staff. During the year of Jubilee Mr. Bignell was awarded the Jubilee Medal for his services.

Captain JAMES ALEXANDER BLACK, M.A., M.B., C.M. (Aberdeen), Indian Medical Service, was born in the year 1870 at Aberdeen. He was educated at the Aberdeen Grammar School and afterwards proceeded to Aberdeen University for his Collegiate course. At this University he graduated in Arts and in Medicine, taking both degrees with honours. He joined the Indian Medical Service in 1896 and came out to India in that year. For his first year in India he remained in military service, after which he was appointed to officiate in certain civil appointments. Between 1897 and 1900 he served three years on Famine and Plague duty. In the year 1901 he was appointed to the post of Medical Officer to the newly raised regiment of 41st Dogras (now serving in China). In 1903 he was appointed to the Chemical Examiner's Department, and in the following year became Officiating Chemical Examiner to the Government of Bengal and Professor of Chemistry at the Medical College, Calcutta.

Mr. EDWARD ARTHUR HENRY BLUNT, B.A., I.C.S., Under-



Mr. E. A. H. BLUNT.

Secretary to the Government of the United Provinces, Judicial Department, was born in the Island of Mauritius in the year 1877. He received his education at Marlborough College and subsequently at Corpus Christi College, Oxford, and University College, London. He passed at the top of the list for the Indian Civil Service competitive examination after his fourth year at Oxford. He was one year at University

Lieut.-Col. E. H. BROWN.

College, London, and proceeded to India to join the service in 1901, being appointed to the United Provinces. His first service was as Assistant Commissioner, Lucknow, and afterwards at Rae Bareli in the same capacity. After a spell of privilege leave he returned to Rae Bareli, officiating as Deputy Commissioner for a short while, and in 1904 was transferred to Benares as Joint Magistrate. In 1905 Mr. Blunt joined the Secretariat, having been appointed Under-Secretary in the Judicial Department.

Lt.-Col. EDWIN HAROLD BROWN, M.D., M.R.C.P. (Lond.), F.R.C.S. (Edin.), D.P.H., Civil Surgeon, 24-Parganas; Medical Inspector of Factories, Medical Inspector of Emigrants, and Surgeon Superintendent, Sumbhunath Pandit Hospital; Consulting Physician, Alipore Central Jail, and to the Reformatory, Alipore; Marine Surgeon, R.I.M. Lt.-Col. Brown was born at Bombay in the year 1861 and educated at University College, London. He took his M.D. degree at Durham in 1903, having previously been an M.D.

of Bruxelles since 1893, M.R.C.P., 1902, F.R.C.S., 1903, L.R.C.P., London, 1887. He returned to India in the year 1887 when he was appointed to the 2nd Gurkhas, whence he was transferred to the 1st Bengal Lancers, and subsequently to the Hyderabad Contingent. He entered civil employ in the year 1889 when he came to Bengal and was appointed to Barisal, the Medical College Hospital, Calcutta, Puri, Cooch Behar, Darbhanga, Mozaffarpur, Purneah and finally to his present appointment in the 24-Parganas in 1899. **Lt.-Col.** Brown is a Fellow of the Zoological Society of London, a Fellow of the Medical Society, a Fellow of the Royal Institute of Health, and of the Royal Sanitary Institute.

Major WALTER JAMES BUCHANAN, B.A., M.D., I.M.S., Inspector-General of Prisons, Bengal, was born in County Tyrone, Ireland, on the 12th November 1861. He was educated at Trinity College, Dublin, and joined the Indian Medical Service on the 1st October 1887. He remained in military employ till 1892, during which time he served with the Black Mountain Expedition of 1888, the Chin-Lushai Expedition, 1889-90, and the Manipur Expedition of 1891. In 1892 he was made Surgeon-Captain and served as Civil Surgeon of Midnapur. He entered the Bengal Jail Department in 1895 and acted as Superintendent of the Central Jail at Bhagalpur and Civil Surgeon in addition to his own duties. In 1897 he was Inspecting Medical Officer at Chausa, and in 1898 Superintendent of the Central Jail, Bhagalpur, and afterwards of the Central Jails at Dacca and Alipore. His services were placed at the disposal of the Government of India, Home Department, in 1900, as Statistical Officer to the Government of India in the Sanitary Department. He received the appointment of Inspector-General of Prisons in 1902.

Lieut.-Col. WILLIAM HENRY BURKE.

Major Buchanan has had a wide experience of medical conditions in India and especially in connection with Jails. He has made many important contributions to medical literature, and has been, since 1899, the Editor of the "Indian Medical Gazette." Among his more important works are a "Manual of Jail Hygiene" and an article in Quain's Dictionary of Medicine on "Liver Diseases," and the chapter on Indian Jurisprudence in Taylor's Standard Work on Medical Jurisprudence, edition 1905. He has written many and varied articles on tropical diseases for the medical journals. Major Buchanan received the medal and clasp for his services with the Manipur Field Force and he holds the Delhi Durbar Coronation medal.

Lieut.-Col. WILLIAM HENRY BURKE, B.A., M.B., B.C.H., D.P.H. (Dublin University), I.M.S., Acting Civil Surgeon, Poona (late Surgeon to the Goculdas Tejpal Hospital, Bombay), was born in Somersetshire, England, in November 1858. He was educated at Rossall School, England, 1872-76, and studied in the Dublin and Vienna Universities from 1878 to 1882. Previous to his arrival in India in April 1883, he passed through the usual course of training at Netley which was necessary for a candidate for India. For the next four years till 1887 Dr. Burke served in the Military Department, in Central India, Afghanistan and other places, and in the Burmese War of 1886-87, was mentioned in despatches. Since then he has been on the Civil List and has held many important appointments in the Bombay Presidency, among which may be mentioned the Resident Surgeoncy of St. George's Hospital, Bombay, and the Professorship of Materia Medica at the Grant Medical College during 1887-88. This was followed by the Civil Surgeonship of Ratnagiri till the end of 1889. Dr. Burke was Assistant Civil Surgeon of Poona for six years, during part of which time he was also Deputy Sanitary Commissioner. In 1897 he was appointed Surgeon to the Kathiawar Political Agency, and served in that province for three and-a-half years, and acted as Civil Surgeon of Karachi in 1899. On his return to Bombay in 1900 he was appointed Surgeon in charge of the Goculdas Tejpal Hospital, and in July of 1905 Acting Civil Surgeon and Superintendent of the B. J. Medical School, Poona.

Mr. ISAAC HENRY BURKILL, M.A., Officiating Reporter on Economic Products to the Government of India, Indian Museum, Calcutta, was born at Chapel Allerton, near Leeds, in England, and educated at Repton School and at Gonville and Caius College, Cambridge. He graduated as Bachelor of Arts in 1891, subsequently proceeding to the degree of Master of Arts in 1895. In 1894 he was Walsingham Medallist. From the year 1891 to 1891 he was Assistant Curator of

the University Herbarium. In 1897 he became a Technical Assistant to the Director of the Royal Gardens, Kew, and in 1899 a Principal Assistant on the Kew staff. After holding this post for two years he was appointed Assistant Reporter on Economic Products to the Government of India. Since the early part of 1902 Mr. Burkill has been officiating for Sir George Watt as Reporter on Economic Products.

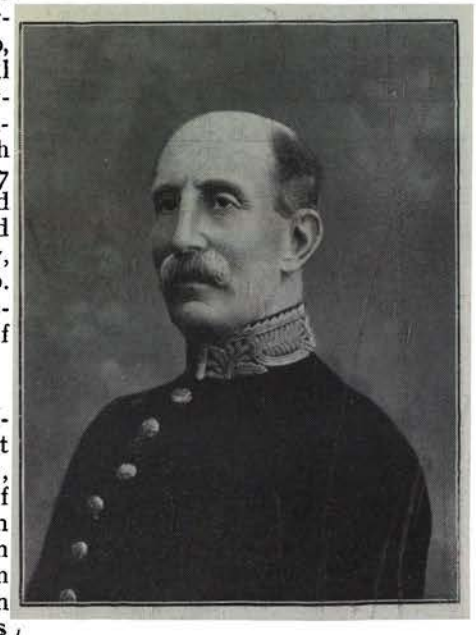
Mr. RICHARD BURN, I.C.S., Editor of the Imperial Gazetteer, was born in Liverpool in 1871, and educated at the Liverpool Institute and Christ Church, Oxford; appointed after examination of

Major William John Bythell.

1889, arrived on the 2nd December 1891, and served in the North-West Provinces and Oudh as Assistant Magistrate and Collector; appointed Joint Magistrate, June 1896; and Under-Secretary to the Government in August 1897, Superintendent of Census Operations, April 1900, also Superintendent of Revision of the Imperial Gazetteer for the United Provinces, October 1902; was appointed Deputy Commissioner in May 1904. He is Author of the United Province Census Report, 1901. Mr. Burn was appointed Editor of the "Imperial Gazetteer for India," February 28th, 1905. He has written various articles on the subjects of Numismatics and Ethnography.

Major WILLIAM JOHN BYTHELL, R.E., Assistant Surveyor-General in charge of Drawings and Records, was born in the year 1862 and educated at Newton and Woolwich, England. He obtained his first commission in July 1882 and served as Survey Officer in Bechuanaland in the year 1884-85. He was appointed Assistant Engineer of the Sind-Pishin Railway in July 1887, in which appointment he remained two years, leaving in 1889 to join the Survey of India as Assistant Superintendent in May of that year. In April 1894 he was promoted to serve as Deputy Superintendent, and again in October 1900, to Superintendent. Major Bythell served in the Chin-Lushai Expedition of 1889-90 as Survey Officer, and subsequently in 1895 with the Chitral Relief Force, in 1897 with the Mohmand Field Force and in 1897-98 in Tirah. He has held charge of survey parties in Bombay, Central Provinces, and the Punjab. He is a Fellow of the Royal Geographical Society and Member of the Asiatic Society of Bengal.

Mr. WILLIAM LOCHIEL CAMERON, Assoc. M. Inst. C.E., Joint Secretary and Chief Engineer, P. W. Department, Government of Bombay, was born at Karachi in 1854, and educated at Cheltenham College and passed direct from school by competitive examination into the R. I. E. College, Coopers Hill, in 1874. At school he was in the Football team, Captain of the XXII, Gymnastic champion and winner of the Ladies' Prize. At Coopers Hill he was in the Cricket and Football teams and winner of the Gymnastic Prize. In 1877 he was appointed Assistant Engineer in Sind and placed in charge of the Rohri Division. Four years later he acted as Executive Engineer, first of the Begari and then of Ghar and Shikarpur Divisions, and was transferred to Sholapur in 1887. As Assistant Engineer Mr. Cameron was employed on the important work of deepening the Eastern Nara Supply Channel. The Eastern Nara is an old river channel, now connected with the Indus by the "Supply Channel," twelve miles long, and starting from the river at Rohri. The Eastern Nara is the sole source of supply to the Jamrao, Mithrao, Thar and other smaller canals in the Thar and Parkar District. In 1886, Mr. Cameron was transferred from Sind, but returned in 1889 and held charge of the Eastern Nara District. After return from leave in 1891 he was posted to the Satara District, but in 1902 he returned to Sind for a short time as member and Secretary of an important Commission appointed by Government to enquire into the Irrigation of Sind generally. At the end of 1902 he



was appointed Executive Engineer of the Dharwar District, and in 1895 he acted for a short time as Under-Secretary to Government, P. W. Department. On return from leave in 1899 he was selected for famine duty, first in Kathiawar and then at Nasik. Two years later he was appointed Superintending Engineer, Southern Division, with Belgaum as the head-quarters, and in 1903 he was transferred to Sind as Superintending Engineer in charge of the Indus Right Bank works. He possesses a good knowledge of Sindhi and Beluchi, having passed two examinations in the former and one in the latter. Mr. Cameron was gazetted Joint Secretary in

March 1904 and has acted as Chief Engineer, P. W. D., and Senior Secretary during the absence of the Hon'ble Mr. White.

Mr. JOHN STRATHEDEN CAMPBELL, I.C.S. (*Lieut.-Colonel, Naini Tal Volunteer Rifles*), Commissioner of Kumaon, son of the late John Scarlett Campbell, formerly of the Bengal Civil Service and Judge of the Chief Court, Panjab. Born at Saugor in the Central Provinces, India. Educated in England at Rugby, and Balliol College, Oxford. Joined the Service in 1883, was attached to the North-West Provinces and Oudh (now Upper Provinces), and arrived in India on 14th December in the same year. Served in Moradabad, Bareilly, Saharanpur, Ballia, Gonda, Lucknow, Jhansi, Rohilkhand and other places in these provinces, rising to Magistrate and Collector, officiating as District and Sessions Judge in 1904. In March 1906, he was appointed Commissioner and posted to Kumaon. He commands the Naini Tal Volunteers with the rank of Lieut.-Colonel. Mr. Campbell's recreation is big game shooting.

The Hon'ble Mr. R. W. CARLYLE, C.I.E., who was appointed in December 1904, to officiate as Chief Secretary to the Government of Bengal, was appointed to the Indian Civil Service in 1880. For five years he acted as Assistant Magistrate and Collector, beginning his Indian career at Midnapur. In 1888 he was appointed Under-Secretary to the Government of Bengal, and while holding this office he acted as Under-Secretary to the Government of India, Home Department, and he also officiated for a short time as Chief Secretary to the Government of Bengal. He was appointed Magistrate and Collector of Chittagong in 1890, and in December 1891 took nearly two years' furlough. After serving as Magistrate and Collector of Tippera and Darbhanga, Mr. Carlyle in 1897 took furlough for a year. The next year he was made a C.I.E., and was appointed to Calcutta for Famine work during 1896-7. Mr. Carlyle acted as Secretary to the Board of Revenue, L. P., in 1899 and again in 1902.

He was appointed to special duty in the Bengal Secretariat in 1901, and in 1902 received the appointment of Inspector-General of Police, L. P. He was on deputation in connection with the Police Commission from November 3rd to 6th December, and in April 1904 officiated as Commissioner of Dacca. Mr. Carlyle became Chief Secretary to the Government of Bengal in 1904, and was appointed to the Bengal Council.

The Hon'ble Mr. HERBERT WILLIAM CAMERON CARNDUFF, C.I.E., lately Officiating Secretary to the Government of Bengal in the Judicial and General Departments, and Member of the Lieutenant-Governor's Legislative Council, is the son of Mr. D. Carnduff, late of the Indian Educational Service, and was born in India in 1862. He was educated privately and at Edinburgh University and Balliol College (Oxon). He joined the Indian Civil Service on the 11th September 1883, arriving in India in November of the same year. His first appointment was that of Assistant Magistrate and Collector, Shahabad, and after serving for some years as Joint Magistrate, Subdivisional Officer, Cantonment Magistrate and Small Cause Court Judge, he joined the Bengal Secretariat in 1887 as Under-Secretary in the General, Revenue and Statistical Departments. In 1888 he officiated as Under-Secretary to the Government of India in the Revenue and Agricultural Department, and in 1889 he was for some time on deputation, preparing the Annual General Administration Report of Bengal. From March 1890 till January 1895, he was Registrar, Appellate Side, High Court. Since then his service has been chiefly in the Imperial Secretariat, he having filled the appointments of Deputy Secretary and Secretary to the Government of India in the Legislative Department for eight years. In 1902 he acted as Private Secretary to H. E. the Viceroy for six months, prior to going on leave. On his return in March 1903, he was placed on special duty in connection with the *Imperial Gazetteer*, and in the following June rejoined the Legislative Department as Deputy Secretary. In April 1904, he became Judicial Commissioner of Chota Nagpur, and was appointed offg. Secretary in 1905. In 1903 he was the recipient of the C.I.E. In 1904 he published a work on Military and Cantonment Law in India.

Capt. W. CHANDLER, Deputy Director, Royal Indian Marine and Member of the Port Trust of Calcutta. Born in the year 1857 and educated at Brighton. Captain Chandler joined the Royal Indian Marine in November of the year 1877. He served in the "Tenasserim" during the Egyptian Expedition of 1882, and for this service he received the medal and the Khedive Star. During the Burma War of 1885 he commanded R.I.M.S. "Sir William Peel" on the Irrawaddy River, and holds the Medal and Clasp for the Burma operations. He was appointed Assistant Director of the Royal Indian Marine, and held the post from 1898 to 1903, receiving the thanks of the Government of India for services connected with the despatch of troops to South Africa from Bombay.

Captain Chandler next officiated as Deputy Director of the Royal Indian Marine from April to November 1903, and was appointed Presidency Port Officer at Madras at the end of the year 1903, which appointment he held till 1905 when he obtained the post of Deputy Director, Royal Indian Marine. In March 1905, he was appointed a Member of the Calcutta Port Trust.

The Hon'ble Mr. JUSTICE NARAYEN GANESH CHANDAVARKAR, B.A., LL.B., was born at Honavar in Kanara in December 1855. He was educated at Elphinstone College, where he gained several prizes, especially one for the best written Essay on "English Monasteries and their Dissolution." In 1877 he took his B.A. degree in the first class, and obtained the "James Taylor" prize for proficiency in History and Political Economy. He was Junior Dakshina Fellow of Elphinstone College in 1877. In 1878 Mr. Chandavarkar took charge of the English Editorship of the "Indu Prakash," which paper he conducted for eleven years with great success. He took his LL.D. degree in 1881, and was awarded the "Arnold Scholarship"

for proficiency in Hindu Law. He was enrolled in that year as a pleader in the High Court, where he met with distinction. Mr. Chandavarkar took part in the leading political movements of his country; and at the sitting of the Indian National Congress at Lahore in December 1900. He is now the General Secretary of the movement known as the Indian Social Conference.

In 1897 Mr. Chandavarkar was nominated by His Excellency the Governor of Bombay an Additional Member of the Legislative Council, as a representative of the Bombay University, and he held that office for four years. In December 1900, the late Mr. Justice Ranade having taken six months' furlough, H. E. Lord Northcote, then Governor of Bombay, appointed Mr. Chandavarkar to act as a Judge of the High Court of Bombay. On the death of Mr. Ranade in January 1901, he was confirmed in that appointment which he still holds.

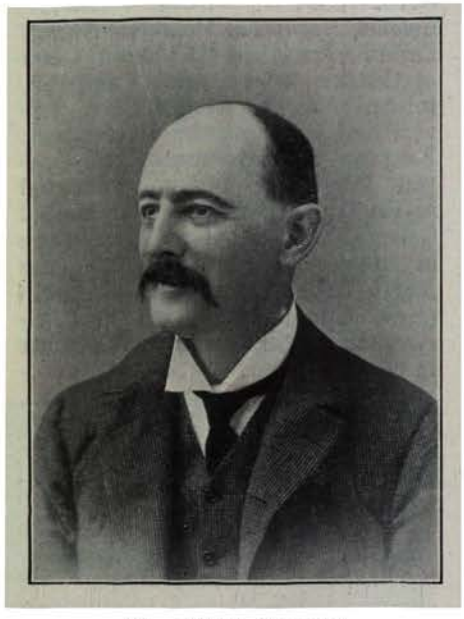
Hon'ble Mr. JUSTICE NARAYEN GANESH CHANDAVARKAR.

besides being a jealous social reformer he has always fearlessly advocated the cause of widow marriage, female education, and other social reforms with which the late Mr. Justice Ranade was identified. In 1885 he was one of the delegates who proceeded to England to enlighten the electors on Indian matters. He is considered a good speaker, among his best speeches being the one delivered in 1886 at a public meeting convened for the purpose of establishing a branch in Bombay of the Lady Dufferin Association for giving medical relief to Indian women, Lord Reay, the Governor of Bombay, having presided.

Mr. Chandavarkar has been a Fellow of the University of Bombay since 1886. He had been a Syndic of that University since 1901. In 1902 the Government of India appointed him the Bombay member to assist the Indian Universities Commission. He is President of the Theistic Church called the Bombay Prarthana Samaj. He presided at the Provincial Conference held at Karachi the same year,

Mr. RAMANI MOHAN CHATTERJEE, M.A., Collector to the Corporation of Calcutta, was born in the year 1860 in Calcutta, and educated at the Presidency College, obtaining the degree of Master of Arts in 1881. He was appointed, in 1881, Professor of Mathematics and Physical Science

in the Metropolitan Institution, and for six years ably filled the appointment. Retiring from the professorship in 1887, and relinquishing educational work, he obtained the post of License Officer to the Corporation, and has during the eighteen years which have since elapsed, gradually risen until in 1901 he became the Collector to the Corporation of Calcutta, which highly responsible position



Mr. FRANK CLAYTON.

he still holds. Mr. Chatterjee's interest in educational matters has not ceased with his withdrawal from his professorship, as he is a much respected member of the Executive Council of the Metropolitan Institution in Calcutta. He has the reputation of being one of the most popular officers of the Corporation. The standard of collection reached in the department under Mr. Chatterjee's control is the highest on record for an Indian Municipality; being as much as nearly 99½ per cent. of the current demand; what is even more creditable is the fact, that, in spite of the high percentage of collection, there is little or no complaint from the public, in connection with the recovery of taxes; the work being done with a good deal of sympathy and tact. In November 1905 at the invitation of H. H. the Rajah of Tipperah Mr. Chatterjee accepted the office of Minister to the Rajah for 15 months, having obtained leave for the period from the Corporation of Calcutta.

Mr. FRANK CLAYTON, F.C.H. A.M. INST. C.E., Executive Engineer

of the Tarai and Bhabar Estates, United Provinces, was born at Port Levis, Canada, in the year 1867. He was educated at Marlborough College and at Coopers Hill College, whence he passed out as a Fellow in 1888. In the following year, Mr. Clayton came out to India and joined the Irrigation Department of the United Provinces. In the course of his duties with this Department he has served on the Ganges, Eastern Jumna, and Agra Canals. In the year 1895, he was placed on the construction of the Fatehpur Branch of the Ganges Canal, for two years as Sub-Divisional Officer, and for one year as Executive Engineer of the Lower Division. In 1899, he was deputed to the Tarai and Bhabar Estates and has held that appointment up to the present date.

Mr. GEORGE B. CRESSWELL, General Manager, Darjeeling-Himalayan Railway, is the son of the late Dr. A. Cresswell, F.R.C.S., and was born in London in the year 1870. He received his education at King's College, London. For his professional training he was articled to the London Brighton and South Coast Railway, and after serving

his term with that Company was for a short period in the service of the London and North-Western Railway. In the year 1891, Mr. Cresswell proceeded to India and was for a brief time with Messrs. Arthur Butler & Co., Engineers. In the following year he was appointed Assistant to

Capt. S. D'A. CROOKSHANK.

Mr. J. Manson on the Bengal-Dooars Railway. He remained with this Company till 1893 when he joined the Assam-Bengal Railway which was then being constructed. On the conclusion of the construction in 1901, he spent a few months in America. After his return to India in 1903 he was offered and accepted the appointment of General Manager and Engineer-in-Chief to the Bengal-Dooars Railway. In the following year he came to Darjeeling as Deputy Manager of the Darjeeling-Himalayan Railway, and on the retirement of Mr. Cary, was appointed to his present position in March 1906. Mr. Cresswell is a Commissioner of the Darjeeling Municipality, and takes a great interest in public matters.

Capt. S. D'A. CROOKSHANK, R.E., Under-Secretary in the Public Works Department, Buildings and Roads and Railway Branches, United Provinces. Second son of the late Colonel A. C. W. Crookshank, 34th Pioneers, who died from a wound received in action whilst commanding a Brigade during the Black Mountain Expedition in 1888. Born in June 1870, Captain Crookshank was educated at Neuenheim College in Germany. Subsequently he joined the Royal Military Academy at Woolwich and obtained his Commission in the Royal Engineers on the 29th July 1889. He saw service in the Chitral Expedition of 1895 as an Assistant Field Engineer on the road over the Malakand and up the Panj Kora Valley, receiving the Frontier Medal for his services. He entered the Public Works Department, United Provinces, in 1892, and was appointed to his present post on 6th January 1905.

Mr. ALEXANDER WALMESLEY CRUICKSHANK, C.S.I., I.C.S., Bar.-at-Law, Member of the Board of Revenue, United Provinces, was born at Dharwar in the Bombay Presidency in the year 1851, his father being the late Major Cruickshank, R.E. He proceeded home for his education which was carried out at a private school at Wimbledon. Passing the Indian Civil Service competitive examination, he joined the service on 26th July 1872, and proceeded to India, arriving here on 11th November in the same year, and was attached to the North-West Provinces (now incorporated in the United Prov-

inces). He served in many districts of the North-West Provinces during the ensuing years rising through the various grades

Assistant Magistrate, Joint Magistrate, Magistrate and Collector, till in 1893 he was appointed Acting Commissioner, which grade was made substantive on the 10th October 1897. In the year 1898 he was invested with the Insignia of a Companion of the Star of India. After a further period passed in service and furlough Mr. Cruickshank was appointed Additional Member of the Council of the Governor-General for the usual term of two years. In 1905 he was appointed a Member of the Board of Revenue, his present appointment.

Mr. W. L. DALLAS, Scientific Assistant to the Meteorological Reporter to the Government of India, was born in London in 1851 and received his education in Edinburgh. Returning to London in 1869 he joined Messrs. Robarts Lubbock & Co.'s bank where he remained for one year. Mr. Dallas then joined the Meteorological Department of the Board of Trade in 1870, and put in 11 to 12 years of useful service, until he was offered the present position by the Secretary of State, which he accepted, and joined the Meteorological Department of the Government of India in the year 1882. Mr. Dallas has contributed numerous articles on meteorological subjects to European and American scientific societies and journals, and is the author of the following papers published officially by the Meteorological Department :—

(1) Cyclone Memoirs of the Arabian Sea.

(2) Meteorological Charts of the Arabian Sea.

(3) Meteorological Charts of the Bay of Bengal.

(4) The Meteorology of the southern portions of the Bay of Bengal.

(5) The Meteorology and Climatology of Northern Afghanistan.

(6) The relation between Sunspots and Weather as shown by marine observations.

(7) The mean temperature and humidity conditions of the Arabian Sea and Persian Gulf.

(8) A storm developed in Equatorial Regions.

(9) A discussion of thunderstorm observations recorded in India.

(10) A discussion as to the failure of the monsoon rainfall in India in 1899.

(11) A Meteorological History of the seven monsoon seasons, 1893—1899.

(12) A report on cloud observations and measurements in Simla.

(13) "Weather and Warfare," a lecture delivered at the U. S. Institution, Simla.

Mr. K. DATTA, Chief Superintendent, Office of the Accountant-General, Bengal, was born at the village of Patul in the District of Hughli on the 27th February 1853, and educated at the Howrah Government School, and afterwards at the Cathedral Mission College, Calcutta University. Mr. Datta, in 1874, entered the Public Works Department of Bengal as an Accountant,

and remained in this Department for a period of about two years. In the year 1876 Mr. Datta joined the Office of the Accountant-General as an Auditor, and worked in this office up to December 1888. He was then transferred to the office of the Accountant-General, Burma, Rangoon, as Auditor and Accountant. Mr. Datta was subsequently placed in charge of the Book Dept. of the Rangoon office, and as Book-keeper. He returned to the Office of the Accountant-General, Bengal, in August 1897, and held the position of Superintendent of the Budget Section. He was afterwards transferred to the Audit Department of the salaries and allowances of Gazetted officers, and subsequently became Book-keeper. In March 1902, he became Senior Superintendent in charge of the Treasury Account Department. Mr. Datta was appointed Chief Superintendent of the Accountant-General's Office in July 1905, and holds this position to the present day.

Mr. WILLIAM CECIL DAVIS, Examiner of Accounts, Public Works Department, was born in Dorsetshire in the year 1872 and educated at English Public Schools. Mr. Davis came out to India in October 1890, and was engaged in private enterprise. He joined the public service in February 1897, as Assistant Examiner, 1st Grade, on probation, in the Public Works Accounts Branch; confirmed in February 1898, Deputy Examiner, Class II, permanent, 14th June 1898; Deputy Examiner, Class I, permanent, 4th July 1900; and Examiner, Class IV, 3rd Grade, permanent, October 1903. During his service career he has been attached to the following Accounts offices :— Public Works Accounts, Rajputana, Central India; Telegraphs, North-Western Railway; Military Works Services, Public Works Accounts, United Provinces; Eastern Bengal State Railway, Public Works Accounts, Bombay; and Public Works Accounts, Bengal.

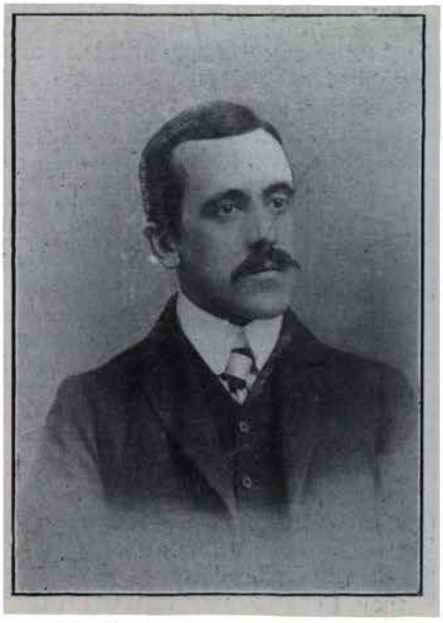
Mr. FRANCIS ERSKINE DEMPSTER, C.I.E., Director, Telegraphs (Construction Branch) (*Major, 2nd Batt., Calcutta Vol. Rifles*), eldest son of Capt. H. L. Dempster, late Royal Madras Artillery, born at Cannanore, Malabar Coast, July 1858, was educated at the Edinburgh Academy and Edinburgh Institution. Passed with the first batch of Telegraph Students into the Royal Indian Engineering College, Coopers Hill, in 1877, and was appointed Assistant Superintendent of Telegraphs in July 1878. Arrived in India November 1878. Was employed in Southern Afghanistan during the war of 1878, 1879, 1880, and was granted the war medal. Was transferred to Upper Burma in 1887 after the annexation, and the following year accompanied the expeditionary force against the Chins, for which he was granted the Indian

medal with the Chin Lushai clasp. In 1895 went as Chief Telegraph Officer with the Chitral Relief Force, was mentioned in despatches and received the decoration of the C.I.E., and the Indian medal 1895 with clasp, Relief of Chitral. In 1896 held charge of the Calcutta Telegraph Office and raised the Telegraph Company of the Presidency Battalion of the Calcutta Volunteer Rifles, and also while in charge of the Calcutta Office was instrumental in instituting the Telegraph Officers' Challenge Shield, which is shot for annually by teams of Telegraph Volunteers throughout India.

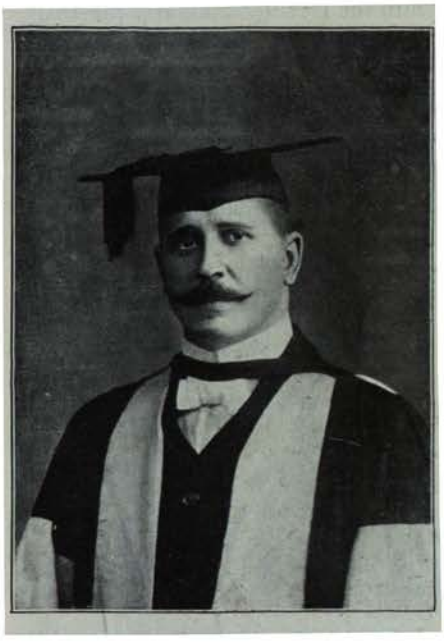
Mr FRANCIS ERSKINE DEMPSTER.

Mr. ARTHUR WILLIAM DENTITH, I.C.S., M.A. (Cantab), Assistant Comptroller, India Treasuries, was born in the year 1874 in Hampshire, England, and educated at Dulwich College, and at Trinity Hall, Cambridge. He took his degree as Bachelor of Arts in 1896, and in the following year competed successfully at the Indian Civil Service Examination. In 1898 Mr. Dentith passed the second and final examination and came to India at the end of the same year. He was first posted at Dacca as Assistant Magistrate and Collector, subsequently serving as Sub-Divisional Officer at Gobindpur and Giridih, then as Joint Magistrate at Midnapore and Alipore, and in 1905 was appointed to his present post as Assistant Comptroller, India Treasuries. In 1902 he took his M.A. degree.

Lieut.-Col. HENRY PEERS DIMMOCK, M.D. (Durham), M.R.C.S., L.R.C.P., I.M.S., J.P., Principal of Grant Medical College and Professor of Midwifery, Bombay. He was born at Ely, Cambridgeshire, in 1857 and educated at King's School, Ely, St. George's Hospital, London, and the Durham University School of Medicine, took his degree in London in 1879 and at Durham in 1898. He joined the Service in 1880, and came to India in the same year and was on general duty at the Goculdas Tejpal Hospital, Bombay; he served with the 2nd Beluchee and the 129th Bombay Infantry as their Surgeon in Afghanistan during the final period of the War. After a period of duty as Medical Officer in charge of the Marine Battalion and 20th Bombay Infantry, and as Civil Surgeon of Shikarpur, Karachi and Nasik, Colonel Dimmock was appointed, in 1888, as Professor of Pathology and Curator of the Museum at the Grant Medical College, and the third Physician, J. J. Hospital; he also acted as Chemical Analyser to Government in addition to his other duties, and Professor of Physiology for some time. Three years later he became the Obstetric Physician at the Hospital and Professor of Midwifery at the Grant Medical College. In 1897 he was appointed by the Government of Bombay to be the Medical Member of the first Plague Committee of which General Gatacre was the President and Mr. James, A.M. INST. C.E., and Mr. P. C. Snow, I.C.S., were the other members. The arrangements for plague hospitals, segregation, and other important plague measures which are still adopted, were worked out by this Committee. On General Gatacre proceeding to England, the late Sir James Campbell became President and Colonel Dimmock was asked by him to remain on the Commission, which he did until May 1898 when he had to proceed on leave in consequence of his health being affected by the arduous labours of the post. In 1901 he acted as Principal, and in November of 1903 was confirmed in that appointment, having been connected with the College and the Hospital for a period of about sixteen years. Colonel Dimmock is a Syndic of the Bombay University, in which he also held the post of Dean of the Medical Faculty. For several years he was a member of the Bombay Municipality; and was on the Standing Committee for



Mr. ARTHUR WILLIAM DENTITH.



four years till, owing to the pressure of work and other duties, he had to resign. He is a member of the leading Clubs of Bombay, the Royal Bombay Yacht Club, the Bombay Club, the Byculla Club and the 16th St. James.

Mr. FRANCIS KNOWLES DOBBIN

Mr. FRANCIS KNOWLES DOBBIN, B.A., Bar.-at-law, is a graduate of Dublin University and was called to the Bar at King's Inn, Dublin, in January 1893. Proceeding to Calcutta he was enrolled an Advocate of the High Court in March 1893. In 1899, he was appointed Coroner of Calcutta, and in 1902, joined the Small Cause Court as Registrar.

Mr. ALEXANDER KARLEY DONALD was born at Muchalls, Kincardineshire, and after spending his school days at the Merchants Companies' Schools at Edinburgh, finished his education at the University in the same city.

At first he was engaged in commercial pursuits, but, finding these uncongenial, joined Gray's Inn in 1894, and obtained an Honours Certificate and the Council of Legal Education's prize for Constitutional Law.

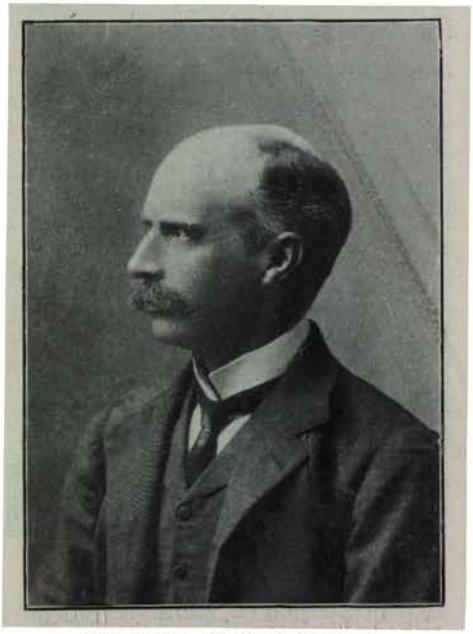
He was called to the Bar in Trinity Term, 1897, and practised for a couple of years in London, and then proceeded to India and joined the Bombay Bar in 1900. The same year he was appointed Examiner in English and in Law to the Bombay University, and in 1901 was appointed Professor of Equity in the Government Law School, Bombay. In 1905 he became Judge in the Court of Small Causes, Bombay.

Major MONTAGU WILLIAM DOUGLAS, C.I.E., Deputy Commissioner, Punjab, entered the 1st Battalion, North Staffordshire Regiment, in February 1884. He was Private Secretary to the late Sir Henry Norman when Governor of Jamaica. Joined the Indian Army in 1887, was appointed Assistant Commissioner, Punjab, in 1890, and Deputy Commissioner two years later. He is the President of the Simla Municipality and Superintendent of Hill Stations. Major Douglas was Deputy Commissioner of Delhi during the Durbar of 1902 and a member of the Executive Committee of the Durbar.

The Hon'ble Mr. JAMES McCRONE DOUIE, I.C.S., Settlement Commissioner, Government of the Punjab. Born in Ayrshire (Largs), Scotland, in 1854. He was

Mr. ALEXANDER KARLEY DONALD.

educated at the High School, Edinburgh, the University of Edinburgh, and Balliol College, Oxford; was a Boden Sanskrit Scholar. Appointed after the examination of 1874, he arrived in India December 1876, and served as Settlement Officer, Secretary to the Financial Commissioner, and as Assistant Commissioner in the Punjab. In 1899 he was appointed Senior Secretary to



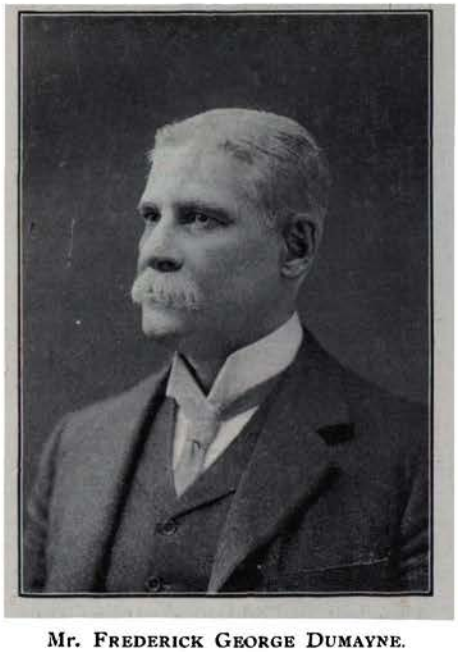
Mr. JAMES McCRONE DOUIE.

the Financial Commissioner. He was appointed Deputy Commissioner in November 1891; Officiating Revenue Secretary from April 1893 to October 1894; and again from November 1895 to April 1896; Officiating Commissioner of Lahore and Superintendent, April 1898; was Chief Secretary to the Government of the Punjab from March 1900 to April 1902. In July 1900 and again in 1903 he was created a member of the Punjab Legislative Council. He is an author of a translation of the Biluchinama, with a Biluch grammar, and the Punjab Settlement and Land Administration Manuals, and is a Fellow of the Punjab University.

Mr. FREDERICK GEORGE DUMAYNE, Vice-Chairman of the Commissioners for the Port of Calcutta, born in Bombay in 1852, educated in Scotland, returned to India in 1870, and was shortly afterwards nominated to a junior appointment on the staff of the Government Reclamation Works, Bombay. On the formation of the Bombay Port Trust in June 1873 was trans-

ferred with the other members of the staff of the Government Reclamation Works to the service of the Trustees of the Port of Bombay. In 1878-79 acted as Secretary to the Bombay Port Trust. In January 1880 was appointed Assistant Secretary, and between that date and 1888 acted from time to time as Secretary. In 1888 was appointed Dock Superintendent, and in 1890 succeeded to the post of Secretary. In 1900 was nominated as a Member of the Committee appointed by the Government of Bengal to enquire into the working of the Calcutta Port Trust, and in March 1901 was appointed by the Government of Bengal to be Vice-Chairman of the Calcutta Port Trust.

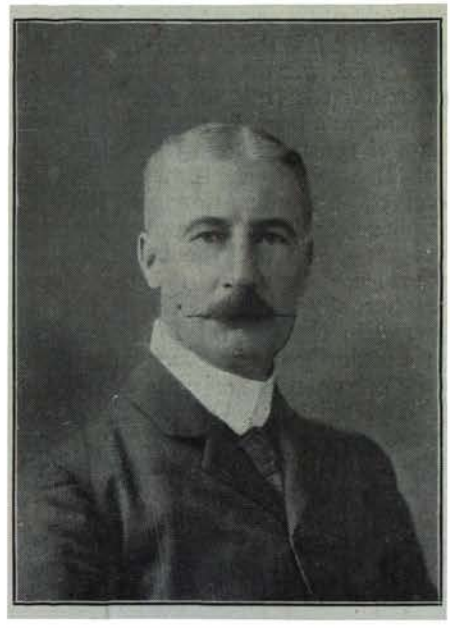
Mr. GEORGE OWEN WILLIAM DUNN, M.INST.C.E., M.R. SAN. INST. The Royal Indian Engineering College at Coopers Hill has in the past sent out to India a large army of excellently trained engineers, not the least successful of whom has been Mr. G. O. W. Dunn, who joined



Mr. FREDERICK GEORGE DUMAYNE.

the college in 1873 at the age of nineteen. His first Indian experience was on the relief works started at Satara during the great famine of 1876. After some years of irrigation work, he was appointed Personal Assistant to the Chief Engineer for Irrigation in 1885, and *ex-officio* Assistant Secretary to Government for Irrigation. Various Military, Imperial, and Provincial works, including a survey of the irrigational and cultivable possibilities of a portion of the Aden Protectorate, occupied him up to 1894, when he became Under-Secretary to Government in the Public Works Department. During the next ten years, in addition to the superintendence of many large undertakings falling to the lot of his office, Mr. Dunn held the appointment of Superintendent of the Practical Course at Coopers Hill College and Examiner of the senior students in Bridge Design and Descriptive Engineering. In 1903, he became Joint Secretary to Government in the P. W. D., Bombay, and in 1904, on the departure to Europe on furlough of the Hon. Mr. Rebsch, Mr. Dunn was appointed Acting Chairman of the City of Bombay Improvement Trust. He was nominated an Additional Member of Council in 1905. The Masonic and professional careers of Mr. Dunn are coincident in time, he having first seen the light in Lodge Perseverance, Sidmouth, in 1876, just before his departure for India. He first held office in the Royal Connaught Lodge, Ahmednagar, in 1892, and became Master of Lodge St. George, Bombay, in 1895. He has twice been appointed Deputy District Grand Master of Bombay and its territories under the English Constitution, an office which he received first at the hands of H. R. H. the Duke of Connaught, and on the second occasion from Lord Northcote. In Royal Arch Masonry he is Second Principal of the District Grand Chapter of Bombay. His public and social offices include the Chairmanship of the Victoria Jubilee Technical Institute, Membership of the Bombay Municipal Corporation, Vice-Presidentship of the Royal Bombay Yacht Club, and Justice of the Peace and Fellow of the Bombay University.

Mr. HENRY COOPER EGGAR, M.V.O., senior member of the firm of Sanderson & Company, Government Solicitors, was born in the year 1851, at Bramshaw, New Forest. His father was Frederick Eggar of Aldershot. He was educated privately and at King's College, London. He served his articles of clerkship under London solicitors, and was admitted as a solicitor in 1876. In July 1877 he came to Calcutta and joined the firm of Sanderson & Company. In 1881 he became a partner in the firm. On



Mr. GEORGE OWEN WILLIAM DUNN

several occasions, namely, in the years 1895, 1896, 1898, and 1899 he officiated as Solicitor to the Government of India. He received the substantive appointment on March 1st, 1890. Mr. Eggar is President of the Attorney's Association of Calcutta, and one of the trustees of the Victoria Memorial.

On the occasion of the visit of the Prince of Wales in January 1906, he was decorated with the M.V.O.

Mr. CLAUDE FRANCIS ERSKINE, Officiating Superintendent (in charge No. 25 Party, Tidal and Levelling), Survey of India, is the son of Claudius James Erskine of the Bombay Civil Service, and was born on 15th October 1855. He received his education at Clifton College and Westminster School and, proceeding to India, entered Government service on 25th June 1880. His first appointment was as Assistant Settlement Officer, Sind Settlement Survey. In 1884 he was transferred to the Bombay Survey, and

in January 1891 to the Survey of India. In the year 1895 he was for some months attached to the Head-Quarters office at Calcutta, and in 1905 returned to the Central Provinces whence after a short period he was transferred to Sind, where he remained until he took over charge of No. 25 Party.

Sir ARTHUR UPTON FANSHAWE, K.C.I.E., C.S.I., I.C.S., late Director-General of Post Offices, India, was born in 1848, and is the son of the late Rev. J. Fanshawe, of Dengey House, Essex. He received his education at Repton College, and after the examination of 1869, entered the Indian Civil Service. Arriving in India November 1871, he was appointed to serve in the Central Provinces till 1880, during which period he held the responsible positions of Assistant Magistrate, Commissioner of Excise, Assistant Secretary, and finally Acting Secretary to the Chief Commissioner. The following year he joined the Post Office, India, as Postmaster-General, and in 1888 was appointed Secretary to the

Mr. JOHN CARLYLE FERGUSSON.

Government of India, Finance and Commerce Department, and also Officiating Director-General of Post Offices, till he was confirmed in that appointment a year later. He was a member of the Royal Commission on Opium for two years, and in recognition of the good services rendered to the Government he had the title of C.S.I. conferred on him in 1896, and was created a K.C.I.E. in January 1903.

Mr. JOHN CARLYLE FERGUSSON, B.A., I.C.S., J.P., M.R.A.S., M.A.S.B., Under-Secretary in the Home Department of the Government of India, was born in the year 1872 at Leslie in the County of Fife, Scotland, and educated at St. Paul's School, and Trinity College, Oxford. He was appointed to the Indian Civil Service after the examination of 1895, and arrived in India on the 8th December 1896: first served at Cawnpore as Assistant Magistrate and Collector: was transferred in the same capacity to Shahjahanpur in 1898: officiated as Joint Magistrate at Bareilly (1899 and 1900), Meerut (1900), Hardoi and Benares (1901): after serving as Assistant Settlement Officer in Bareilly for short periods in 1900 and 1901 was appointed Settlement Officer of that District in 1902: became Under-Secretary to the Government of the United Provinces in 1903: officiated as Under-Secretary to the Government of India in 1904, and was confirmed in his present appointment in December of that year.

Mr. EDMUND WATKINS FERN, Chief Inspector, Drainage Department, Bombay Municipality, was born in Nottingham in 1853 and educated partly in England and subsequently in India, where he arrived in 1865. He joined the Bombay Municipality in 1885 as Inspector in charge of Drainage Works, and with steady and zealous work attained his present position. The health of a large and thickly populated city like Bombay depends a good deal upon the sanitary arrangements and these have been one of the most important features of the Municipal works. Almost the whole of the underground pipe sewers and ovoid sewers of this city have been laid and constructed under the careful supervision of Mr. Fern who has been connected with that Department during his whole term of office, which covers very nearly a quarter of a century.

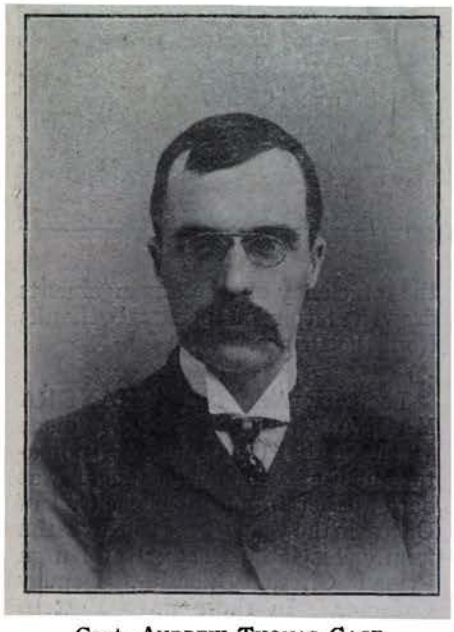
The Hon'ble Mr. EDMUND McGILDOWNY HOPE FULTON, C.S.I., I.C.S., Member of the Council of the Governor of Bombay, was born in London in 1848. He received his education at Rugby, and

Mr. EDMUND WATKINS FERN.

joined the Bombay Civil Service in 1869. He held various appointments in different parts of the Presidency, and went to Rangoon as Judicial Commissioner of Lower Burma in 1891. In 1892 he was appointed to act as Judge of the Bombay High Court, in which appointment he was confirmed in 1897. In 1902 he was appointed a Member of the Governor's Council, and two years later had the honour of the Companionship of the Star of India conferred on him.

Capt. ANDREW THOMAS GAGE, Indian Medical Service, M.A., B.SC., M.B., C.M., F.L.S., F.R.H.S., Officiating Superintendent, Royal Botanic Gardens, Calcutta. Born in the year 1871 at Aberdeen and educated at the Grammar School of Old Aberdeen. After his school career Captain Gage pursued his studies at Aberdeen University. He graduated M.A. with 1st class honours in Natural Science in 1891, and B. Sc. with highest honours in 1893. From 1893 to 1896 he was Assistant to the Professor of Botany in the University of Aberdeen. In 1896

he also graduated in Medicine. In the year 1897 he entered the Indian Medical Service, and came out to India in 1898. For the first three months of his Indian service he was attached to a Regiment on the North-West Frontier. In the first year of his service he was appointed Curator of the Herbarium attached to the Royal Botanic Garden at Calcutta. He still holds this appointment. Since 1904 he has been officiating as Superintendent of the same institution, and as Director of the Botanical Survey of India, and also as Superintendent of Cinchona Cultivation in Bengal and Quinologist to the Government of Bengal. Captain Gage is also Officiating Secretary to the Board of



Capt. ANDREW THOMAS GAGE.

Scientific Advice to the Government of India, and Officiating Professor of Botany at the Medical College, Calcutta. He is a Fellow of the Linnæan and Royal Horticultural Societies, also a Member of the Society of Arts. Has published various botanical papers.

Surgn.-General Sir THOMAS GALLWEY, M.D., K.C.M.G., C.B., fourth son of Henry Gallwey, Esq., J.P., of Tramore, Co. Waterford, born 1852: educated at Stonyhurst: M.D., M.CH., Royal University, Ireland, 1873. Married, 1901, Maud Margaret Howard, daughter of the late Captain Gifford, 12th Lancers, and Hon. Corps of Gentlemen-at-Arms, and widow of Captain C. W. D. Gordon, R.A.

Entered Army Medical Department, March 1874, specially promoted Surgeon-Major, 1885; Lieutenant-Colonel, 1893; Brigade-Surgeon Lieutenant-Colonel, 1896; Royal Army Medical Corps, 1898; and Surgeon-General, December 1901.

Served in the Afghan War, 1878-80; capture of Ali Musjid and Expedition into Bazar Valley; returned with troops through Khyber Pass (death march), June 1879; organized and was in sole charge of the Cholera Hospital Camp, Peshawar-Jumrood (Medal with Clasp); Egyptian War, 1882; battles of Kassasin and Tel-el-Kebir; operated on Egyptian wounded following battle; thanked by Director-General (Medal with Clasp and Bronze Star).

Proceeded to Egypt, July 1883, for Cholera Epidemic in that country.

Nile Expedition, 1884-85; established Dibbah Field Hospital, crossed Bayuda Desert; S.M.O. Gubat and organized field medical arrangements on return march and was present at engagement under General Sir Redvers Buller. (Mentioned in Despatches, *London Gazette*, August 25th, 1885, promoted Surgeon-Major.)

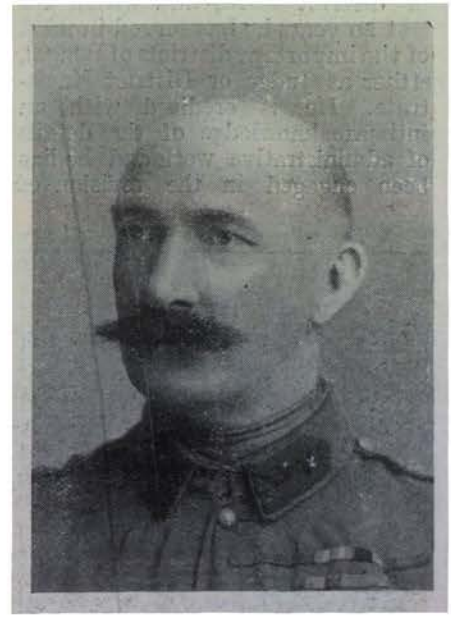
Expedition to Dongola, 1896, as Principal Medical Officer; specially mentioned for energy and capacity during the Cholera Epidemic which attacked the Expeditionary Force, and was present at the engagements leading up to the capture of Dongola Operations, 19th September 1896. (Despatches, *London Gazette*, 3rd November 1896; created C.B., Egyptian Medal with Clasp.)

Nile Expedition, 1897, as P.M.O., Egyptian Army.

Nile Expedition, 1898, as P.M.O., Egyptian Army; battles of Atbara and Khartoum (mentioned in Despatches, *London Gazette*, 24th May and 30th September 1898); promoted Colonel; 2 Clasps, Egyptian Medal; British Medal.

On leaving the Egyptian Army was accorded a special Army Order thanking him for his services.

South African War, 1899-1900; Principal Medical Officer, Natal Army, under General Sir Redvers Buller; was present at Colenso; operations of 17th to 24th January 1900; action at Spionkop; operations 5th to 7th February and action at Vaalkrantz; operations, Tugela Heights, 14th to 27th February and battle of Pieters Hill resulting in Relief of Ladysmith. Operations in Natal March to June 1900, including action at Lang's Nek, 6th to 9th June 1900. Operations East of Pretoria in Transvaal July to November 1900. (Despatches Sir Redvers Buller, 30th March and 9th November 1900; *London Gazette*,



8th February 1901; Queen's Medal with 6 Clasps. Created K.C.M.G.)

Specially selected to be Principal Medical Officer, His Majesty's Forces in India, January 1902.

While P. M. O., India, he has been identified with re-organization of the field medical arrangements, and progress in peace charges, and in widespread sanitary improvements and the health efficiency of the Army.

In the world of sport he has been prominent; especially Racquets, Billiards, Cricket, Polo, Whist, Tennis and Yachting; while in the racing world he has taken a foremost place at home and abroad, and

his name will be remembered as the owner of "Hidden Mystery" and "Leinster," the two best horses that ever jumped a country.

Clubs: Junior United Service and Princes.

Mr. EDWARD GEAKE, the present Commissioner of Excise and Salt, Bengal, was educated at Plymouth College, on the Continent, and at Christ Church, Oxford. He arrived in India in the year 1886 and was first posted to the Midnapore district. Mr. Geake takes considerable interest in Bengali literature and is one of the few Civilians who have passed the Examination for the Degree of Honour in that language. His career has been mostly spent in district work, and within the last 20 years he has served in most of the important districts of Bengal, either as Judge or District Magistrate. He is credited with an intimate knowledge of the details of administrative work and he has been engaged in the revision of

establishments and salaries in Government offices as a Member of the Ministerial Officers' Salaries Committee. He was appointed Commissioner of Excise in November 1904, and in that capacity he is responsible for the working of a department which, before the partition of Bengal, yielded a revenue bordering on 200 lakhs and even now produces 150 lakhs of rupees annually.

The control of operations for the prevention of illicit manufacture of salt from the Chilka Lake on the south to the borders of Arracan on the east, is also vested in the Commissioner of Excise.

The Excise administration of Bengal is in a transition stage, and the way is being paved for the abolition of the old native outstill and the introduction of modern distilleries. The declared policy of Government is to reduce the consumption of alcohol and noxious drugs, by continually raising the cost price to the consumer. To effect this object and at the same time eradicate illicit practices is the task of the Excise Commissioner. In a country where opium or ganja can be produced at will by any cultivator, and where the material for illicit distillation is always at hand, it is no easy matter to safeguard the revenue and protect the people from their own weaknesses.

Mr. HERBERT GEORGE GELL, M.V.O., Commissioner of Police, Bombay, was born 22nd October, 1856. Mr. Gell joined the Bombay Police in the rank of Assistant Superintendent in the year 1876, and served in this grade at various stations in the Bombay Presidency until the year 1881, when he was appointed Deputy Commissioner of Police. While on a year's leave he was gazetted successively 1st grade Assistant Superintendent and 5th grade Inspector of Police, and on his return was appointed Deputy Commissioner of Police, Bombay. In this office he has served ever since, rising through the grades till in 1904 he obtained the substantive grade of Commissioner, with full charge of the Bombay City Police. Mr. Gell has had a long and honourable career in the policing of the town and island of Bombay. Scarcely a year has passed without the honourable mention of Mr. Gell in the annual reports on the Police of Bombay, and he has been repeatedly thanked in Government resolutions for his services. He received the thanks of H. R. H. the Duke of Connaught for the admirable arrangements during the Duke's visit to the City, and appreciative comment on the smartness of the men under his command. The visit of T. R. H. the Prince and Princess of Wales in 1905 was an even severer strain upon the force, but

the efficiency of the arrangements drew a letter of personal thanks from the Prince.

The Hon'ble Sir CHANDRA MADHAB GHOSE, Senior Puisne Judge of the High Court of Judicature at Fort William in Bengal, was born at Bicrampur, in the District of Dacca, in the year 1839, of a Kayastha family, his father being Rai Durga Prosad Ghose, Bahadur, Deputy Collector. In those days Eastern Bengal, in which Bicrampur is situate, was not so advanced as it has since become, and there were small chances of obtaining the necessary education, to fit the young Chandra Madhab for the battle of life, in those parts. The Kayasthas, however, wherever found, are an energetic class, of great intelligence, claiming descent from Chitragupta of primeval age, and as belonging to the class of Kshettriyas who in ancient Hindu times were the warrior caste and ranked next to the Brahmans. Rai Durga Prosad enacted the part of a wise parent and placed his son in the centre of learning in the Province, Calcutta, where he attended the Hindu and the Presidency Colleges,

at that time the leading scholastic institutions for Hindu lads. These were the days before the introduction of the new University system in Calcutta, but in the very first year the University was established the young Ghose passed creditably the Entrance Examination. Owing to ill-health Chandra Madhab was not able or permitted to pursue his studies further at that time, but was compelled to rest a while in order to recuperate. Later, when restored to health, he rejoined the Presidency College, and subsequently joined the Law Class of that College with a view to qualify for a forensic career. Here he had the advantage of studying law under a lawyer of commanding attainments in the person of Mr. William Austin Montriou, then Professor of Law at the Presidency College, and also Advocate of the old Supreme Court. Mr. Ghose did well under the able tuition of the eminent Professor. He was an earnest student, and with great natural abilities which fitted him for the profession, he won the regard of Professor Montriou in whose estimation he stood high, a good omen for the ultimate success of the present learned Judge. In the twenty-second year of his life, 1860, Mr. Ghose passed with credit the Law Examination which authorised him to practise as a pleader. His first venue was at Burdwan where he met with success as a pleader. Within six months he was appointed Government Pleader by the Government, at the instance of Mr. Beaufort, then Superintendent and Remembrancer of Legal Affairs. His old friend, Mr. Montriou, stood sponsor to him on this occasion. Having been asked by Mr. Beaufort to recommend some one for the post, he mentioned Mr. Ghose, which his knowledge of that gentleman's attainments enabled him to do without suspicion of favour. Mr. Ghose did not retain the post long, throwing it up on finding that he could not work in harmony with the local Collector. He accepted a position under Government as Deputy Collector. He held this position for a very short period only. In this manner he was headed off by fate from travelling by avenues which would have led him away from the true goal which he has since attained and the honours awaiting him. A provincial pleadership under Government or the position of an Uncovenanted Civil Servant, however distinguished, would but ill have compensated him for his present exalted position. Mr. Ghose, after these tentative efforts, entered the line of his true vocation and joined the old Sadar Court at Calcutta Before long the Sadar and Supreme Courts, hitherto separate from the beginning of British rule in Bengal, were fused into one, thus giving rise to the institution known as the High Court of Judicature at Fort William in Bengal. Mr. Ghose came to the Calcutta Bar with considerable experience gained in his Mofussil career, and though at that time there were Hindu advocates

Mr. TARINI KUMAR GHOSE.

of brilliant abilities senior to him in the profession, he acquired a fair practice from the beginning. His old preceptor, Mr. Montriou, had never lost sight of him, and at this time we find Mr. Ghose acting for that gentleman as Professor of Mofussil Law during six months in the year. In the great Rent case which was argued before a full Bench of fifteen Judges when Dwarka Nath Mitter (subsequently raised to the Bench) was opposed to Mr. Doyne, a leading advocate of the day, Mr. Ghose acted as junior to Mr. Mitter, and was considered to have rendered very efficient service to his chief. Among his compeers Dwarka Nath and Romesh Chandra Mitter (afterwards knighted and appointed a Member of the Supreme Council) were raised to the Bench, where Mr. Ghose has since followed them. This left a clearer field for the rapidly rising advocate, and he soon attained leading rank and a very wide practice. For some years Mr. Ghose held a position among Calcutta advocates second to none, his reputation standing very high as an able, fearless and conscientious lawyer. In 1884, he was appointed a member of the Bengal Legislative Council. A vacancy on the Bench occurring in the year 1885, Sir Richard Garth, then Chief Justice, and the other Judges of the Court nominated Mr. Ghose for the post, and the appointment was duly confirmed by Her Majesty's Government. Mr. Ghose has thus held the highest distinction which the law has to bestow for over twenty years, and during that time has earned a great reputation for his grasp of facts, for the soundness of his law, the wisdom of his decisions, and for his independence. Mr. Justice Ghose has thoroughly justified during the whole of his long service the promotion which raised him to be a member of the Bench. He is now the senior Puisne Judge of the High Court and was lately appointed to act for the Chief Justice in the absence of the latter, as his great countryman, Romesh Chandra Mitter, acted for the Chief Justice of his day. There is no higher distinction possible under the British Government than to be, or act for, the Chief Justice of Bengal.

Mr. TARINI KUMAR GHOSE, B.A., Inspector-General of Assurances and Registrar-General of Births, Deaths and Marriages, Bengal, comes of one of the oldest Calcutta families, the well-known Ghoses of Pathuriaghatta. One of his ancestors, Ram Lochan Ghose, served under Warren Hastings and took part in the Decennial Revenue Settlement of Bengal. His father, Sambhu Chunder Ghose, was on the recommendation of Mr. Longueville Clark, (a prominent barrister of the time,) appointed a Deputy Collector in 1837, and was one of the earliest of such officers appointed by the Government of Bengal.

Mr. Tarini Kumar Ghose was born on the 28th January 1848 at Burdwan, where his father was then

Mr. ROBERT GEORGE GIRARD.

Manager of the Estates of the Maharaja. Passing the Entrance (Matriculation) Examination from the Maharaja's School at Burdwan at the age of fourteen, he took his degree of B.A. with distinction, at eighteen, from the Presidency College, Calcutta. In 1868, Sir William Grey, Lieutenant-Governor of Bengal, ordered that an examination, combining nomination with competition, should be held for admission to what has been since known as the Provincial Civil Service. The examination was only held once, and was afterwards discontinued. Mr. Ghose obtained a nomination for the examination and stood second in order of merit among a large number of candidates. He was in consequence appointed a Deputy Magistrate and Deputy Collector, and he joined his first appointment at the age of twenty, at Pabna, on the 3rd July 1868. He afterwards served in the same capacity at Birbhum, Rajshahi, Dacca, Malda, Murshidabad, Nadia and Alipur (near Calcutta). He held charge of two Sub-Divisions, Khulna and Baraset. While at Alipur, he was in charge for about eight years of the important and difficult work of acquiring lands for the Calcutta Municipality, and also for the E. B. S. Railway, in three districts (24-Parganas, Malda and Faridpur), and was publicly commended by Sir Charles Elliott, Lieutenant-Governor of Bengal, in his speech at the opening of the Marcus Square Recreation Ground on the 13th December 1895. He was appointed to his present post on the 6th April 1900 by Sir John Woodburn, Lieutenant-Governor of Bengal, and has been twice a Member of the Bengal Legislative Council, first on the recommendation of Sir John Woodburn, and again on that of Sir James Bourdillon. He has recently, with the approval of the Local Government and the sanction of the Secretary of of State, reorganized the Registration Department, considerably increasing the status of the large body of registering officers posted throughout the Province, and introducing system where formerly it was wanting. In the Report on the Administration of Bengal for 1903-04, his scheme for the reorganization of the Registration Department was mentioned by Government as likely to have "far-reaching results." Mr. Ghose has been in Government Service for the last thirty-five years, and the connection of his family with Government Service will probably not cease with him, as his son, Mr. Sarat Kumar Ghose, B.A., who took his degree from Trinity College, Cambridge, and passed successfully into the Indian Civil Service, has recently begun his official career as an Assistant Magistrate in Bengal.

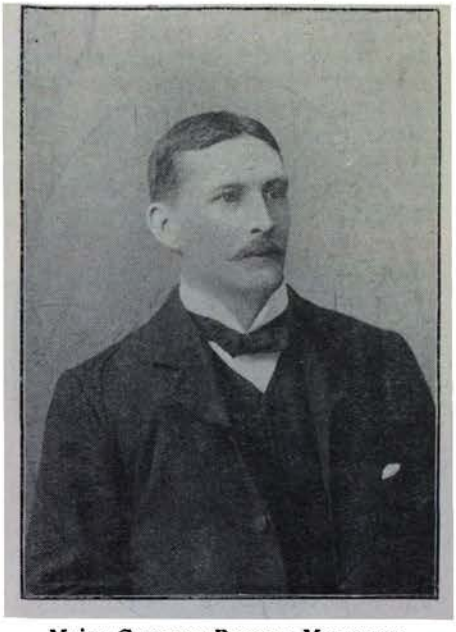
Mr. ROBERT GEORGE GIRARD (*Captain, 1st Batt. Calcutta Vol. Rifles*), Collector of Income Tax, Calcutta, born in 1859 and educated at the Bedford Grammar School, came out to India at the end of 1875 and, after serving in the Military Accounts Department for a period of 12 years, was transferred in 1884 to the Civil Department and placed in charge of the Stamp Revenue Department. In 1896 he was appointed Collector of Income Tax, Calcutta, and this appointment he still holds. Mr. Girard rendered good service in the Stamp, Excise and Income Tax Departments, as the enormous increase of revenue under those heads during the periods of his tenure will show. Mr. Girard has always supported very enthusiastically the Volunteer movement, and holds the rank of Captain in the 1st Battalion of the Calcutta Volunteer Rifles, in which corps he has served for 30 years. He is a crack rifle shot, and on one occasion took up a team of his corps to the great open rifle meeting at Meerut, and returned with the Inter-Regimental trophy. He is also a keen sportsman both at large and small game, but most of his leisure time now is spent in gardening—a pursuit in which he is very practical. He takes a very great interest in institutions connected with hospital work and charity.

Major PHILIP JAMES GORDON, I.A., Superintendent of Forest Surveys, Survey of India, Dehra Dun, was born in Scotland in the year 1859 and obtained his education at the Edinburgh University, whence he passed out with the degree of Master of Arts in 1878. He passed his course at the Royal Military College, Sandhurst, and was gazetted second lieutenant in H. M.'s 54th Regiment of Foot in 1881, and joined his regiment at Roorkee. He was appointed on probation to

the Bengal Staff Corps in 1883 and was finally admitted in the following year. He served as Adjutant of the 14th Sikhs from the 9th February 1885 until the 10th

November 1890, when he was appointed probationary Assistant Superintendent in the Survey of India. During his military service Major Gordon saw active service in the Hazara Campaign of 1888, for which he received the medal and clasp, and the Wuntho Expedition of 1891, for which he obtained the clasp. For the next ten years Major Gordon's services were with the Survey Department as Assistant and Deputy Superintendent, the greater part of the time being spent in Burma. In the year 1900 he was appointed Superintendent of Forest Surveys at Dehra Dun, which appointment he holds at the present day. He is a fellow of the Royal Geographical Society. The Forest Survey Branch of the Survey of India, of which Major Gordon is Superintendent, was constituted in 1872 for the purpose of preparing large scale surveys of Government Forests. It was formed to aid the more systematic and conservative treatment of State Forests rendered necessary by their growing importance. Major Gordon has had two predecessors in the office of Superintendent, Captain F. Bailey, R.E., who organized the Department, and Mr. W. H. Reynolds whom he succeeded in 1900. In 1904 the Forest Surveys of Madras and Bombay were put under the Superintendent, Forest Surveys, at Dehra Dun, and the branch became an integral part of the Survey of India.

Mr. WILLIAM CORYTON GRAHAM, Bar.-at-Law, Officiating Standing Counsel to the Government of India, was born at Calcutta in the year 1856. He proceeded home for his education, which he received as a King's scholar at Eton, and afterwards at Trinity College, Cambridge. He entered at Lincoln's Inn and studied law under Mr. Charles Bowen, afterwards Lord Bowen, and Sir A. L. Smith, and was called to the Bar in the year 1880. For the next eight years Mr. Graham practised on the Western Circuit, England, afterwards proceeding to India in the year 1888, and has practised in the local Courts ever since. In 1903 he was appointed to officiate as Official Trustee and Official Assignee of Bengal, and obtained his present appointment of Standing Counsel in 1906. Mr. Graham has been active in other departments during his career in India. He was Chairman of the Garden Reach Municipality for several years. In business he has been prominent as a Director of the Indian branch of the Pelican Insurance Company, the Central Jute Company, the Budge Budge Jute Company, the Assam S. S. Company, the Bengal-Nagpur Coal Company, and the Dunbar Cotton Mills. He has taken a prominent part in Bengal journalism, for many years being connected with the *Indian Daily News*. Mr. Graham is the son of the late Mr. Joseph Graham, K.C., who was Advocate-General of Bengal and Treasurer of the Middle Temple.



Major CHARLES ROBERT MORTIMER GREEN.

Mr. JOHN PHILIP GREANY, M.D., M.CH. L.M., I.M.S., Surgeon-General with the Government of Bombay, was born in July 1851 and educated at Queen's College, Cork, and Rotunda Hospital, Dublin, graduating from the Queen's University (now the Royal Irish University) in 1874. He came to India in November 1875, was posted on general duty and attached to the Goculdas Tejpal Hospital, Bombay. Among the many civil and military appointments which have been held by him, those deserving of notice are, his connection with the 10th, 18th and 24th Bombay Native Infantry Regiments, the Civil Surgeoncies of Kaladgi, Kaira, Satara, Belgaum, Dharwar and Poona; at the last-named place he was also Superintendent of the Byramji Jeejeebhoy Medical School. He was Deputy Sanitary Commissioner, Southern Division, from 1878-79 and next year acted as Superintendent of the Yerrowda Central Jail, Poona. Before acting as Secretary to the Surgeon-General with the Government of Bombay in 1883-84 he held the post of the Superintendent of the Colaba Lunatic Asylum, 1882-83. In 1902 he was retransferred to the Military Department and deputed to Aden, and in the year following to Karachi, in both of which districts he was the P. M. O. He assumed charge of the office of Surgeon-General with the Government of Bombay in May 1905. Surgeon-General Greany was thanked by the Government and received six months' pensionable service as a reward for work done in connection with the famine of 1877. He is a member of the British Medical Association; the Irish Medical Graduates Association; the Association of Military Surgeons of the United States of America, and the Bombay Medical and Physical Association.

Major CHARLES ROBERT MORTIMER GREEN, F.R.C.S. (England), D.P.H. (Camb.), I.M.S.

Major Green is the third son of the Rev. E. P. Green, M.A., of Boscombe, England. He was born in 1863 and educated at Mercer's School, London. He commenced his medical career in the London Hospital. Was a prizeman in Surgery and qualified in 1884. After holding various hospital appointments, he joined the Indian Medical Service in September 1886 and arrived in India in March 1887. For over four years he remained in military employ obtaining a medal and clasp for the Black Mountain Campaign of 1888, but in 1892 he became Resident Surgeon at the Eden Hospital, Calcutta, making the Diseases of Women his special study. In 1893, he was also Resident Surgeon at the Medical College Hospital and Health Officer of the

Port, for a time, but returned to the Eden Hospital. After a period of sick leave due to blood poisoning contracted at the Eden Hospital, he was sent on special duty in connection with anti-choleraic inoculation (April 1896) under Professor Haffkine, and then became Civil Surgeon at Bankura and Darbhanga successively (May 1896, September 1897). A temporary period of military employ on the Tirah Expedition 1897 was followed by his appointment as Superintendent of the Campbell Medical School (April 1898), and a few months later as Health Officer for Plague at Calcutta.

In 1899 he became Civil Surgeon of Dacca, and in the following year of Mozufferpore. In 1901, however, he returned to Calcutta and became Superintendent of the Campbell Medical School and Professor of Medical Jurisprudence at the Medical College.

In 1902 his services were placed at the disposal of the Government of India in the Home Department and he removed to Simla, where he has since been working as Civil Surgeon.

Major Green is the author of several contributions to the *Indian Medical Gazette*, and other articles, some of which are noteworthy: Some abdominal sections in Mofussil practice (1900). Suggestions on the method of administration of antiperiodics and iron to prisoners in Jail (1899). Three papers on the subject of Plague (*Indian Medical Gazette*, 1898). Notes on the prevalence of Filariasis in the Calcutta Police Force, and another paper on intestinal parasites.

Major Green is a keen sportsman, holds one of the Calcutta Golf Club medals. He is a Fellow of the Obstetrical Society of London.

Mr. RICHARD TOWNSEND GREER, C.S.I., I.C.S., was born at the Woods, County Derry, Ireland, in 1854. He was educated at Kingstown School, Dublin. As an athlete he played in the Irish International Rugby football team. He entered the Indian Civil Service in 1877, and his first appointment was Assistant Commissioner in Assam. Mr. Greer remained in Assam until November 1888, acting for a period as Assistant Secretary to the Chief Commissioner and a Deputy Commissioner. During this eleven years' service he took furlough for a year and eight months. In 1888 his services were placed at the disposal of the Bengal Government, and he was appointed on Famine duty in Madhubani, Darbhanga. In 1893 Mr. Greer was appointed Magistrate and Collector of Tippera. He served in this capacity in Darjeeling, and in March 1898, he officiated as Chairman of the Corporation of Calcutta. In 1898 he was appointed Inspector-General of Police, and in 1900 appointed Chairman of the Corporation of Calcutta, which position he filled for about 5 years. In 1904 he received the C.S.I. decoration.

Mr. Greer has had a varied experience in the service, and the very responsible and arduous duties of Chairman of the Municipality demanded special qualifications. The Municipality had been for the past few years under a strong fire of criticism, both from the public and sections of the Commissioners themselves. Mr. Greer had to deal with many important questions which he handled with marked ability. The Municipal Government of Calcutta is a problem that presents unique difficulties that would tax the strongest administrator. The community is a vast one of varied interests, the requirements of the city are rapidly growing, and every day sees new developments of civil life and changes. Calcutta is in the process of transformation. The bustee and the crooked bazaar street are retreating before the electric tram and the *pucca* road. The big reform scheme that is under consideration, is a splendid enterprise that should change the face of the city. Mr. Greer showed a rare enthusiasm for his work and the completest sympathy with the needs of the city. The prospect of creating a modern Calcutta, one fit to take its position as capital of the Indian Empire, is one that fires the imagination. Lord Curzon, speaking at a memorable dinner at the Bengal Chamber of Commerce, indicated eloquently the possibilities of Calcutta under an efficient Municipality. Next to being Viceroy, he declared that he would choose to be Chairman of the Corporation.

The Hon'ble Mr. BEHARI LAL GUPTA, I.C.S., is a Hindu by birth, of the Vaidya caste, and was born in Calcutta on the 26th October 1849. His maternal grandfather, Baboo Hari Mohan Sen, was a well-known resident of that city, and became afterwards Prime Minister to the Maharaja of Jeypur. He is thus closely connected with Babu Keshub Chunder Sen, the distinguished Brahmo Somaj leader.

He was educated in Calcutta at the Presidency College till the age of eighteen, when he went to England to study for the I.C.S. examination, in company with Mr. Romesh Chunder Dutt, afterwards also of the I.C.S. and at present a Councillor to H. H. the Gaekwar of Baroda. They were the pioneers who opened the path for natives of India in the Covenanted Civil Service of India by open competitive examination in England. Mr. Gupta passed the examination in 1869, and was also called to the Bar from the Middle Temple in 1871. On his way out to India, he with his two companions, Mr. R. C. Dutt and Mr. Surendra Nath Banerjee, were mistaken for Communists in Paris, and were detained in prison, but happily for one night only.

Having served as Assistant Magistrate and Collector in different districts, and on special relief

duty in Manbhum and Hughli in 1874, Mr. Gupta was posted to Calcutta as a Presidency Magistrate and Coroner, which posts he held from 1881 to 1886.

During that time he attracted a good deal of public attention as being the reputed originator of the once famous Ilbert Bill. The actual part which he took in bringing about that measure is, however, more correctly described in the recent issue of the Encyclopedia Britannica.

Mr. Gupta proposed a very small measure, namely, that Indian members of the Covenanted Civil Service should have jurisdiction to try Europeans, a jurisdiction from which they were for the first time debarred by the Criminal Procedure Code of 1872, the Indian Legislative Council being almost equally divided on the question. The proposal had the approval and support of Sir Ashley Eden, the then Lieutenant-Governor of Bengal, who forwarded it for adoption to the Government of India. The Bill subsequently introduced in Council was of a different nature and much wider scope.

Hon. Mr. BEHARI LAL GUPTA.

During the earlier part of his official career, Mr. Gupta successfully passed the service prize examinations, and obtained Degrees of Honour in Sanskrit and Persian.

Having served with distinction as District and Sessions Judge in various districts, he was promoted to the office of Superintendent and Remembrancer of Legal Affairs to the Government of Bengal, and also appointed a member of the Bengal Legislative Council. These posts are still held by him. In 1898, and again in 1901, he officiated as a Judge of the High Court. Since joining the service Mr. Gupta has taken furlough and visited England on three occasions, and also travelled in Norway, Sweden, Germany and other countries of Europe.

The Hon'ble Mr. KRISHNA GOVINDA GUPTA, Member of the Board of Revenue, L. P. (Bar.-at-Law), was born at Bhatpara in the Dacca district of East Bengal in 1851. He was educated first at Mymensingh and afterwards at the Dacca College. He proceeded to England in 1869 for a European education, and in 1871 he passed for the Indian Civil Service. He joined the Civil Service in 1873, after having been called to the Bar, returned to India in that year and was posted to Backergunge as Assistant Magistrate and Collector. In March of 1874 he served on Famine Relief duty in Bogra, and was there till October, when he returned to Backergunge. He rendered excellent service after the destructive cyclone and storm wave that devastated the sea-board of the district in October 1876. He acted as Assistant Magistrate and Collector and Joint Magistrate in several districts, officiating at times as Magistrate and Collector. In 1887, he officiated in Calcutta as Junior Secretary to the Board of Revenue, in which post he was confirmed in 1890. The next year he acted as Commissioner of Excise, Bengal, and he was substantively appointed to the post in 1893. In 1901 he was appointed Commissioner of the Orissa Division, and Superintendent Tributary Mehals. In 1904 he officiated in Calcutta as a Member of the Board of Revenue, being the first Indian to hold that high office, and in July of that year he was appointed a Member of the Bengal Council. Mr. Gupta has had a most distinguished official career and is a splendid type of the cultured Indian. He is a prominent member of the Brahmo-Somaj community and is vitally interested in the social

and intellectual development of his countrymen.

Mr. FRANK EDWIN GWYTHER, Indian Public Works Department, Under-Secretary to Government of the Punjab in the Irrigation Branch of the Public Works Department, received his training as an engineer at the Thomason College. On his appointment to the Department he was posted to the Punjab Irrigation Works on May 31st, 1881. He was appointed Assistant Engineer in December of the same year, and became Executive Engineer in February 1895. His present appointment dates since October 1904.

Mr. WILLIAM BANKS GWYTHER, F.R.I.B.A., Superintending Engineer, Central Circle, Bengal, was born in Birmingham on the 7th February 1856. He is the second son of the late Henry Gwyther, who was for a number of years in the Public Works Department of Central India, and afterwards with the Government of the North-West Provinces. Mr. Gwyther was a member of the firm of Messrs. Gwyther and Branson before he came out to India to join the Public Works Department.

Mr. W. B. Gwyther joined the Public Works Department in

November 1876, and was posted Apprentice Engineer to the 3rd Calcutta Division. He was appointed Assistant Engineer, 3rd grade, in 1878, and to the 2nd grade in 1879. On passing his

Mr. WILLIAM BANKS GWYTHER.

Departmental Standard Examination he was posted as Assistant Engineer, 4th Calcutta Division. He had practical training in England from April 1884 to September 1886. He was promoted to the 1st grade of Assistant Engineers on January 1st, 1885, and in 1888 he joined the office of the Chief Engineer, Bridges and Roads Branch, and officiated as Executive Engineer. He was placed on special duty at the Public Works Secretariat in February 1890, and on 5th March 1892 he was appointed an Executive Engineer, 4th grade, attached to the Public Works Secretariat. In 1898 he was appointed Executive Engineer (1st grade) to the Central Circle, which is the most important in India, embracing as it does the whole of Calcutta. In 1903 Mr. Gwyther was appointed Superintending Engineer of this important Circle. He has greatly distinguished himself as an architect during his career in the Public Works Department, many of the modern public buildings of Calcutta having been designed by him. In 1903 he was appointed a Fellow of the Calcutta University.

The Hon'ble Mr. WILLIAM THOMAS HALL, C.S.I., is the fourth son of the Reverend F. H. Hall, of Drumollien, Dounpatrick. He was born on the 18th November 1855, and educated at Rossall and Kingston schools. He entered at Trinity College, Dublin. Having successfully passed the examinations he was appointed to the Indian Civil Service in the year 1878, and joined the service as Assistant Commissioner in Burma. He was appointed Settlement Officer in 1884, and held the appointment for two years. In 1887 he received the appointment of Director of Land Records and Agriculture, in which he remained till the year 1890, when he was posted to the position of President of the Rangoon Municipality for two years. He became substantive Commissioner in 1899 and Member of the Legislative Council of Burma in 1902. In 1905 he was appointed additional member of the Governor-General's Legislative Council. Since the year 1902 he has held the appoint-

ment of Financial Commissioner of Burma.

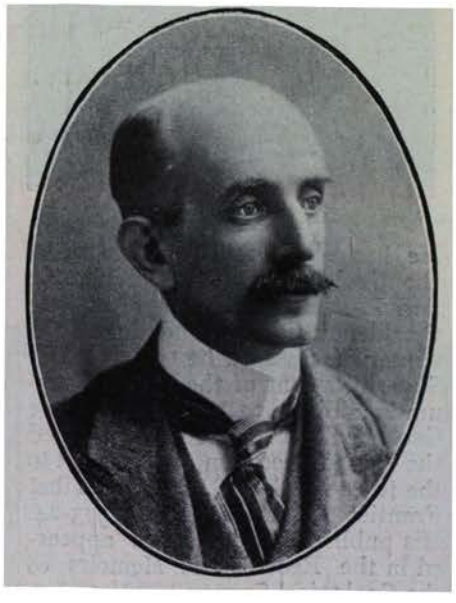
Mr. FREDERICH LOCH HALLIDAY (*Captain, 2nd Batt., Calcutta Vol. Rifles*), Commissioner of the Calcutta Police, belongs to a family which has for many years been connected with India and has gained high honours and reputation in the country. A grandson of Sir Frederick J. Halliday, the first Lieutenant-Governor of Bengal from

1854 to 1859, he is a son of Mr. F. Mytton Halliday, late of the Indian Civil Service (one of the last of the old Haileybury Civilians), who was Commissioner of the Patna Division, and was afterwards Senior Member of the Board of Revenue prior to his retirement in 1891. Mr. Halliday was born at Mozufferpore in Behar, India. He was educated at Home, at Beckenham in Kent, and also at the well-known army school at Wimbledon, of Messrs Brackenbury and Wynne. Coming to India in 1885, Mr. F. L. Halliday joined the Bengal Police Service in September of that year, his first appointment being that of Assistant Superintendent at Bhagalpur. Passing through the several grades of Assistant Superintendents he became District Superintendent of Police in June 1895, receiving his next step in April 1899, and in December 1901 was promoted to the fourth grade of District Superintendents. During his service Mr. Halliday has been closely connected with the Calcutta Police, as in September 1890 he was officiating as Deputy Commissioner of the Metropolitan Police Force, and on several other

occasions until February 1902 when he received the substantive appointment. His long experience and intimate knowledge of the Calcutta Police and their work, led to his being appointed Officiating Commissioner in September 1900, in September 1901, and again in 1904, and on the Commissioner of Police proceeding on leave in 1905, Mr. Halliday was again selected for the officiating appointment. *Ex-officio* he is also appointed a visitor of the Alipore Jail and Presidency Jail, a Member of the Board of Management of the Alipore Reformatory School, and of the Committee of Management of the Government Workhouse, and has powers of a 1st Class Magistrate in the 24-Parganahs, and is also *ex-officio* Inspector of Factories in Calcutta, *ex-officio* Visitor of Native and European Lunatic Asylums, and also *ex-officio* President of the Boiler Commission, and *ex-officio* President of the Albert Victor Leper Asylum. During the great Durbar at Delhi in 1902-3 Mr. Halliday was on special duty,—the supervision of the erection of the large camp of His Honour the Lieutenant-Governor of Bengal, the general charge of it being entrusted to him. When enjoying a well-earned holiday at Home in 1903, Mr. Halliday's interest in his professional career induced him to study the working of the London Metropolitan Police Force, as also those of Liverpool and Manchester. For this purpose he was placed on special duty in England from 1st September to 31st October 1903, and was greatly assisted by Mr. E. R. Henry, Chief of the Metropolitan Police (London), whilst the broader experience thus gained has been of much use to Mr. Halliday in the carrying out of his responsible duties in Calcutta. Mr. Halliday is a keen Volunteer and is Captain of B Company (Police), 2nd Battalion, Calcutta Volunteer Rifles, and is also a very popular member of Calcutta society. He had conferred on him during the visit of H. R. H. the Prince of Wales the decoration of M. V. O.

Mr. EGBERT LAURIE LUCAS HAMMOND, I.C.S., was born in the year 1872 in England and educated at Newton College, South Devon. He entered at Keble College, Oxford, in 1891, and took his B. A. degree in 1895. The same year he passed into the Indian Civil Service, and after serving as Assistant Magistrate and Collector for the next few years was appointed Private Secretary to His Honour the Lieut.-Governor of Bengal in March 1901. In this capacity he served with Sir John Woodburn and Sir James Bourdillon till, in 1903, he was appointed Vice-President of the Cooch Behar State Council, which appointment he still holds.

Mr. ALFRED GEORGE HARRISON, Examiner of Accounts, P. W. D., Bengal, was born at Cape Town, South Africa, on 28th June



1853. He is the son of the late W. H. Harrison who was in the service of the Honourable East India Company and was a Judge at Bombay. Mr. Harrison was educated at the Royal Engineering College, Coopers Hill, and joined the Public Works Department in 1876. He arrived in India in November 1876 and was posted to Burma as Assistant Engineer. In 1880 he was appointed to the 1st Grade of Assistant Engineers and officiated as Executive Engineer. He served in the Public Works Secretariat, Rangoon, and was transferred to the Accounts Establishment in August 1881. He was appointed to the office of Examiner of Provincial Railway Accounts, and in 1882 he was posted to the office of Examiner of P. W. Accounts, North-West Provinces and Oudh. In August 1885 he was appointed Deputy Examiner of the Imperial State Railway Accounts. In 1886 Mr. Harrison was transferred to Bombay, and in May of the same year was promoted to be Deputy Examiner of the 1st Grade. On return from furlough in 1888 he was appointed to the office of Government Examiner of Accounts, East Indian Railway. In June 1889 he joined the office of Examiner of Public Works Accounts, Bengal, and in May 1891 was appointed Examiner, 4th Class, 3rd Grade. In March 1892 he was appointed Examiner at Nagpur and officiated as Government Examiner of Accounts, Bengal-Nagpur Railway, in addition to his own duties, from 1st September to 20th November 1892. In 1893 he acted as Examiner, P. W. Accounts, in Rajputana and Central India till 1896, and in 1897, on return from leave, he was transferred to the N.-W. Provinces and Oudh temporarily for famine work. In December 1897 he was transferred to the office of the Accountant-General, P. W. D., where he acted as Assistant Accountant-General. In 1898 he was appointed to the office of the Examiner of Military Accounts, and in 1900 to the office of Examiner of P. W. Accounts, Madras. In October 1903, on return from leave, Mr. Harrison was posted to the office of Examiner of Accounts, P. W. D., Bengal.

While at Coopers Hill, Mr. Harrison was an enthusiastic Volunteer, and he has acted as Paymaster of the Nagpur Volunteers.

During furlough in 1903 he lectured on accounts to the R. I. E. College, Coopers Hill.

Mr. ERNEST BINFIELD HAVELL, Principal of the Government School of Art, Calcutta, was born in England in 1861. He was educated at Reading School and the Royal College of Art, South Kensington, and is an Associate R.C.A. Mr. Havell came out to India in 1884. His first appointment was to the Southern Presidency as Superintendent of the Madras School of Art, where he continued for eight years, resigning at the end of that

time. He then worked for four years in France and in Italy, and was appointed to the Calcutta School of Art in 1896. Mr. Havell has exhibited sculpture at the Royal Academy, London, and painting at the Royal Academy, Copenhagen, and at private Exhibitions in London Galleries. He has written largely of the Arts and Industries of India, and his articles on Indian Art have been printed in the English "Review," "The Nineteenth Century and After." He has also published a "Hand-book to Agra and the Taj," and "Benares, the Sacred City," giving sketches of Hindu life and religion. Mr. Havell has been actively connected with the revival of hand-loom weaving in India, a movement which, it may be said, was originated by him. He is a Fellow of the Calcutta University.

Mr. Ernest Binfield Havell.

Mr. HENRY HUBERT HAYDEN, B.A., B.A.I., F.G.S., was born at Londonderry on July 25th, 1869, and educated at Hilton College, Natal, and Trinity College, Dublin. He obtained the degree of Bachelor of Arts with honours in Modern Literature in 1890, and the degree of Bachelor of Engineering, with special certificates in Mining, Chemistry, Geology, Mineralogy and Practical Engineering, in 1894. He was appointed to the Geological Survey of India in 1895 and was promoted to the grade of Deputy Superintendent in 1903 and of Superintendent in 1904.

He has also acted as Curator of the Geological Museum, Calcutta, and Professor of Geology at the Presidency College, and during the winter of 1902-03, he officiated as Superintendent of the Indian Museum in addition to his duties in the Geological Survey. He accompanied the Tirah Expedition, as Geologist to the force in 1897-98, and the Tibet Frontier Commission in 1903-04. His published papers have appeared in the Records and Memoirs of the Geological Survey.

Major RICHARD HEARD, B.A., M.B., B.CH., B.A.O., I.M.S., and L.M., Rotunda Hospital, Dublin, Civil Surgeon, Punjab Establishment, and Joint Medical Officer, Simla, was born in Ireland in 1870. He was educated at Bray School and afterwards joined the Royal University of Ireland, taking his B. A. degree in the year 1892. He has also studied in the Medical School of Physic, Trinity College, Dublin. Commencing his medical service in 1893 he came to India during the course of the year. Major Heard was seemingly fortunate, within a year of his arrival to be able to accompany the Expeditions into Waziristan in 1894-5 and to take part in the relief of Chitral, for which services he was rewarded with medals and clasps. Major Heard entered the Punjab Civil Service in 1896 and has held various appointments as Civil Surgeon in the Punjab. He has been Master of Lodge Himalayan Brotherhood, Simla, No. 459, E. C. He is a member of the British Medical Association, England.

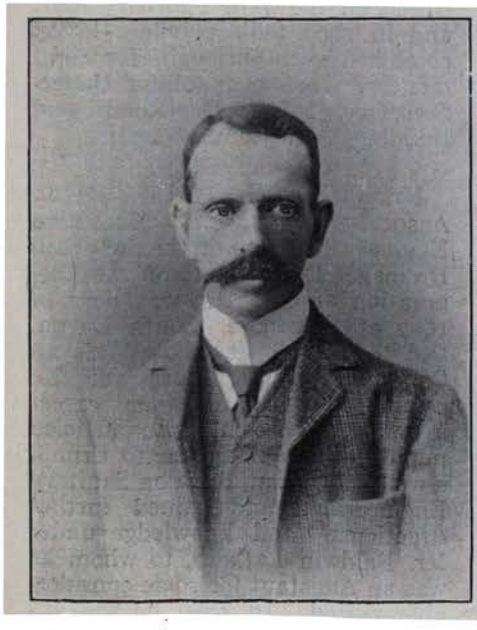
Major Richard Heard.

The late Mr. Justice GILBERT STUART HENDERSON, High Court of Judicature, Bengal, was the fourth son of the late George Henderson, Esq., of Gordon, Berwickshire, and was born on the 4th February 1853. He was admitted to the degree of M.A. at the Edinburgh University in 1874, and was called to the Bar at the Middle Temple in May 1876. In the same year Mr. Henderson came to India and joined the Calcutta Bar in February 1877. In 1881 he officiated as Lecturer on Mahomedan Law in the Presidency College, and in 1887 was appointed Tagore Lecturer, the subject of his lectures being "The Law of Wills in India." In 1882 he officiated as Chief Presidency Magistrate, Calcutta, and in 1898 as a Judge of the High Court of Calcutta. In 1900 he officiated as a Judge of the High Court of the North-West

Provinces. In 1901 Mr. Justice Henderson was appointed to act as Standing Counsel to the Government of India, and from February 1902 he was a Judge of the High Court of Bengal. During his career in India, Mr. Justice Henderson devoted much time to professional literary work, and was the author of several books on the different branches of the Law in India. He married in 1881, Mabel Jessie, the second daughter of Colonel T. T. Boileau, formerly of the 20th Hussars, and has one son, Mr. N. G. B. Henderson, a Lieutenant in the Black Watch (Royal Highlanders).

Mr. JOHN WILLIAM HENSLEY, Chief Superintendent, 1st Class, Indian Government Telegraph Department, was born in London in the year 1858, and received his education at Kensington Grammar School and King's College (Applied Science Department), London.

Having passed into Coopers Hill (second in the Entrance Examination for Telegraph Engineers) he was appointed an Assistant Superintendent in January 1879. In February 1893 he officiated as Superintendent and was placed in charge of the Bengal Division, Calcutta. In 1894 he was made permanent in that class.

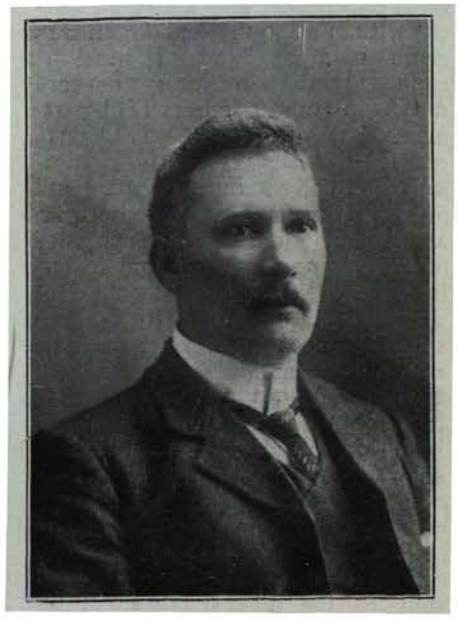


Mr. Hensley served the Department as Electrician in Calcutta during the years 1892-93, and 1894-97. He then took furlough, during which he was deputed to undergo a three months' course in Messrs. Siemens Bros.' Telegraph Works at Woolwich in 1898, on which he subsequently printed a report in book form. On returning to India he was successively placed in charge of the following Divisions:—Oudh and Rohilkhand, Bengal, Bellary, and Punjab. He was promoted to Officiating Chief Superintendent in December 1901, to permanent 2nd Class in March 1903, and to permanent 1st Class in November of the same year.

He was selected to carry out the telegraph operations between Forts Changsil and Aijal during the Lushai Expedition of 1890-91, for which service he received the Lushai Medal and Clasp, 1889-92.

His services have been specially acknowledged by the Director-General of Telegraphs on five different occasions, the last being in connection with the restoration of telegraph communication in the Kangra and Kulu Valleys after the lamentable earthquake on 4th April 1905.

Mr. Hensley is the son of the late F. J. Hensley, Esq., M.D., M.R.C.S. (London), and nephew of Canon Lewis Hensley (Senior Wrangler, Cambridge) and of Sir R. M. Hensley, J.P., Chairman of the Metropolitan Asylums Board, London.



Mr. HARRY NELSON HESELTINE.

Mr. HARRY NELSON HESELTINE, Asst.-Secretary to the Government of India, Finance Department, joined the service in April 1881 and held various appointments until August 1899, when he was appointed to the above post. Mr. Heseltine is graded as an officer in Class IV of the enrolled list of the Financial Department.

The Hon. Mr. JOHN PRESCOTT HEWETT, C.S.I., C.I.E., was born at Barkham, Kent, England, on August 25th, 1854. He is the eldest son of the Rev. John Hewett. He was educated at Winchester College, and Balliol College, Oxford. In 1875 he entered the Indian Civil Service, and arrived in India in 1877. Mr. Hewett first served in the North-Western Provinces and Oudh as Assistant Magistrate and Collector, and Assistant Commissioner. In 1883 he was placed in charge of the *Imperial Gazetteer*, and in the following year he acted as Assistant Accountant-General. In April 1884, he was appointed Junior Secretary to the Board

of Revenue. He officiated as Under-Secretary to the Government of India, Home Department, in 1886, and was confirmed in this appointment in August 1887. During 1888 and 1892, Mr. Hewett officiated as Private Secretary to the Viceroy of India. In March 1890, he acted as Secretary to the Government of India, Home Department, and in the same year he filled the important position of Officiating Census Commissioner for India. For his distinguished services he received the C. I. E. decoration in May 1891. In 1893 Mr. Hewett was appointed Deputy Commissioner, and during that year he served as Secretary to the Royal Commission on Opium. In April 1894, he was appointed a Magistrate and Collector, and in December 1895 he received the appointment of Secretary to the Government of India, Home Department. In December 1898, Mr. Hewett received the decoration of the C. S. I. for his services. In the same year he was appointed a member of the Plague Commission. Mr. Hewett then officiated as Chief Commissioner of the Central Provinces, and in November 1903 he was confirmed in this very important position. He acted as temporary Member of the Governor-General's Council from August to December 1904, and in December 1904 he received the appointment to the new post created by Lord Curzon—the direction of the Department of Commerce and Industry. For many years the growing importance of the Commerce of India made it an increasingly difficult problem for the Government to grapple with the many issues raised. It was realised that the only way to meet the difficulty and adequately deal with the important claims of the business community was to create a new Department in which business matters could be focused. Lord Curzon, with his characteristic energy, set about establishing this new Department, but he was keenly alive to the fact, that its success would largely be due to the man who was entrusted with the very considerable task of launching it and directing its energies in the right direction. Under the control of a perfunctory official this Department would become rather a drag on Commerce than a help. The choice of Mr. Hewett for the post was hailed with the widest approval. He was recognised as a man of marked ability, great experience, and above all gifted with initiation and organising genius of a rare kind. It must be confessed that business men are not as a rule admirers of departmental methods, but it was at once realised that Mr. Hewett was himself essentially a business man, full of sympathy for business enterprise and keenly alive to the necessity of developing resources and fostering every legitimate scheme for developing our industries. His splendid record of service in India and his commanding personality marked him out as an exceptional man. Since the Department has been organised Mr. Hewett has shown great sympathy with the business community, and characteristic energy. Strong as were Mr. Hewett's claims to the post of Commercial Member, he now takes a further step to the highest rung of the official ladder as Lieutenant-Governor designate of the United Provinces of Agra and Oudh.

Mr. JOHN CHARLES HEWITT was born in London, on 26th September 1862, and was educated at Old Hall College, Hertfordshire, Durham, and the Royal Indian Engineering College, Coopers Hill,

having also received a practical training in England on the construction of the Hindley and Pendleton Railway. He joined the Public Works Department, Bengal, in November 1886, and was posted as Assistant Engineer, 2nd Grade, to the Calcutta Division, passing his professional examination in September 1887. He acted as Assistant Engineer in Jessore, Hazaribagh and Chota Nagpur, and in 1889 was appointed to the 1st Grade of Assistant Engineers. Passing his departmental examination in May 1892, Mr. Hewitt was appointed to the Eastern Sone Division, and went on furlough in 1895. On his return he was posted to the Akhoyapada-Jajpur Division, where he officiated as Executive Engineer, 3rd Grade, and in 1897 was appointed Executive Engineer, 3rd Grade, permanent, and in February 1900 was posted to the Dacca Division. In addition to his own duties he held charge of the office of Inspector of Works, Eastern Circle, from October 1900 to January 1901, obtaining his appointment as Inspector of Works of that Circle on the 15th January 1901. Mr. Hewitt was confirmed as Executive Engineer, 2nd Grade, on the 24th February 1901, and in 1903 took privilege leave, combined with furlough, for eight months. He was appointed Under-Secretary, P. W. D. (Roads and Buildings), in January 1904.

Mr. JOSEPH BALL HILL, ASSOC. M. INST. C.E., Executive Engineer in charge of the Suburban Drainage Department of the Corporation of Calcutta, was born in 1867 at Salcombe, South Devon, and educated at the Wesleyan College at Truro, Cornwall. He commenced his professional career in 1883 by becoming an articled pupil of Mr. William Santo Crimp, a well-known authority on Sanitary Engineering, and gained further experience and knowledge under Mr. Baldwin Latham, to whom he was an Assistant for some considerable period. In 1886 he was appointed Assistant Surveyor to the local board at Wimbledon, and three years later, in 1889, he proceeded to South America, going to Buenos Ayres in the service of Messrs. Bateman, Parsons and Bateman, the Engineering Firm to whom were

entrusted the sanitary improvement works of that city, which cost over five and a half million pounds sterling. Remaining there for four years Mr. Hill returned to England in 1893, and for the next six years,

Mr. JOSEPH BALL HILL.

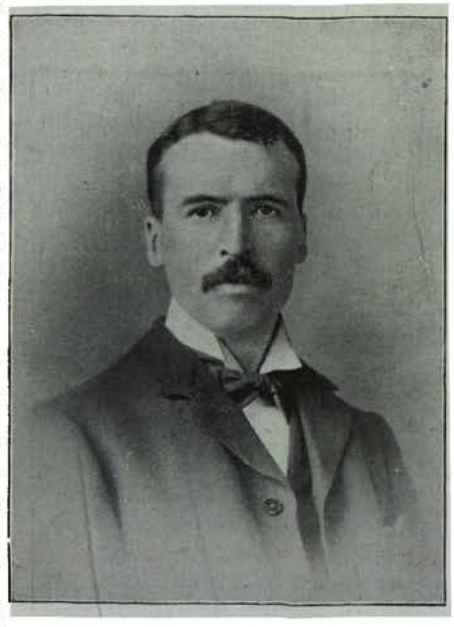
until 1899, was associated with Mr. Baldwin Latham as an Assistant Engineer. Shortly after the Corporation of Calcutta had taken in hand the extensive system of Suburban Drainage, they, on Mr. Latham's advice, selected Mr. Hill as their Executive Engineer to carry out these important works, and he came to Calcutta in 1899 for this purpose. During his incumbency of the appointment, Mr. Hill has, on two occasions, officiated as Chief Engineer to the Corporation, and has remodelled a large portion of the Suburban Drainage system, and successfully carried out the improved project, and has also prepared extensive schemes for the drainage of the Balliaghatta and Fringe areas, as well as for the surface drainage of the suburbs.

Mr. MONTAGUE HILL, F.L.S., Assistant Inspector-General of Forests, is the son of the late J. H. Hill, Esq., of Cosham, Hampshire, and London. In 1887 he was appointed by the Secretary of State for India to the Impeiral Forest Service and arrived in India on the 27th December of the same year. His first posting was to the Kheri Forest Division in the United Provinces (then Oudh). After a period he was transferred to Pilibhit, Bhira, and then to the Gorakhpur District of the United Provinces, where he remained till the year 1896, and in January of that year was transferred to Burma. He held charge in succession of the Rangoon Ruby Mines, Bhamo, and Southern Shan States Forest Divisions. In February 1904 he was posted back to India, and appointed Assistant Inspector-General of Forests to the Government of India. Mr. Hill was elected a Fellow of the Linnean Society on 3rd December 1893.

Lieut.-Col. JAMES RAMSAY HOBDAY was born on the 16th July 1850, and received his first commission on the 13th January 1869. His appointment to the Indian Army dates from the 28th March 1871, and his rank of Lieut.-Colonel from the 13th January 1899. Colonel Hobday retired on the 16th July 1905 at the age of 55, after 34 years' meritorious service in India.

Lieut.-Col. JAMES RAMSAY HOBDAY.

Mr. THOMAS HENRY HOLLAND, A.R.C.S., F.G.S., F.R.S., was born November 22nd, 1868, and educated at the Royal School of Mines and Royal College of Science, South Kensington, where he obtained the National Scholarship, the Murchison Medal and Prize, and was granted the Associateship with Honours in 1888. In 1889 he was elected a Berkeley Fellow of Owens' College, for researches in



Chemical Geology, and in the following year was appointed an Assistant Superintendent of the Geological Survey of India and Curator of the Geological Museum, Calcutta. In 1892 he was appointed Professor of Geology at the Presidency College, Calcutta, in addition to his duties on the Geological Survey. In 1894 he was promoted to the grade of Deputy Superintendent, and in 1903, on the retirement of Mr. C. L. Griesbach, C.I.E., was appointed Director of the Department. His scientific work in India has been recognised by the grant of the Murchison Fund of the Geological Society of London in 1902, and by election to the Fellowship of the Royal Society of London in 1904. Mr. Holland was elected to be a Vice-President of the Asiatic Society in 1904 and 1905, a Fellow of the University of Calcutta in 1905, and a Trustee of the Indian Museum in 1901. His published papers have appeared in the Journal of the Anthropological Institute, Geological Magazine, Mineralogical Magazine, Quarterly Journal of the Geological Society, Journal of the

Asiatic Society and in the Records and Memoirs of the Geological Survey.

Mr. HERBERT HOLMWOOD, I.C.S., J.P., Officiating Judge, Calcutta High Court. Born in the year 1856 at Lee, Kent, and educated at

Uppingham. He went up for the Indian Civil Service competitive examination in 1877, and passing, after the usual probation, arrived in India in December 1879. He was posted to Bengal and served as Assistant Magistrate for some years, rising to Joint Magistrate and Deputy Collector in 1890, in the same year being appointed Inspector-General of Registration. In November 1894 Mr. Holmwood was confirmed as District and Sessions Judge at Gaya, in which capacity he served first at Bhagalpore in 1893. He went to Patna as Judge in 1902 and afterwards to the 24-Parganas, till the year 1905 when he was appointed to officiate as a Puisne Judge of the Calcutta High Court from January to June of that year. He was placed on special duty in September of the same year to serve on the Committee appointed to deal with the revision of the salaries of Ministerial Officers. He rejoined the High Court in the following year, taking his seat in March as Officiating Puisne Judge in the vacancy caused by the leave of absence of the Hon'ble Mr. Justice Stephen. Mr. Holmwood published a legal work entitled the "Law and Practice of Registration in Bengal" during his incumbency of the office of Inspector-General of Registration in Bengal (Thacker, Spink & Co., 1894).

Mr. WILLIAM WOODWARD HORNELL, B.A., Inspector of European Schools, Bengal, was born in the year 1878 in England, and educated at Radley, and at Trinity College, Oxford. After graduating in 1901, he was appointed by the Secretary of State for India to the Indian Educational Service and arrived in India in January 1902. He worked for some time as a Professor of English at the Presidency College, Calcutta, and was appointed to officiate as Inspector of European Schools in the following year (1903). On the formation by the Government of India in 1903, of a Committee to enquire into the matter of Hill Schools for Europeans in Northern India, Mr. Hornell was appointed to act as Secretary, his services being placed at the disposal of the Government of India, in the Home Department, for that purpose; on completion of this, he reverted to the appointment he still holds.

Mr. CHARLES WILLIAM WEBLEY HOPE, Superintendent,

Dehra Dun, and Chairman, Municipal Board, Mussoorie, son of the late Rear-Admiral Charles Webley Hope, was born in England in 1864, and educated at Tonbridge, Plymouth and Mannamead Colleges, and Balliol College, Oxford. Joined the Indian Civil Service in 1885. He was first posted to Allahabad as Assistant Magistrate, and subsequently

Hon. Mr. JOHN WALTER HOSE.

served as Assistant Magistrate at Mirzapur and Joint Magistrate at Benares, Meerut, and Lucknow. In 1891, he officiated as Under-Secretary to Government, United Provinces, and in 1894 as Director of Agriculture in the United Provinces, He was Settlement Officer, Barabanki, Oudh, from 1893 to 1897, and afterwards was successively appointed Deputy Commissioner, Gonda, 1899, Collector, Cawnpore, 1900, Deputy Commissioner, Hardoi, Oudh, 1902, and Superintendent, Dehra Dun, in October 1904. Became Chairman of the Mussoorie Municipality the same year. Mr. Hope is a keen Mason, and is Worshipful Master of Lodge Dalhousie 639, E. C.

The Hon'ble Mr. JOHN WALTER HOSE, I.C.S., Member of the Lieut.-Governor's Council, United Provinces, was born in London in the year 1865. Educated at Dulwich College, and Christ Church, Oxford. Joined the Indian Civil Service in

1886, arrived in India and was attached to the North-West Provinces and Oudh on 3rd December 1886. Served in the Province at Agra and Gorakhpur as Assistant, and officiated as Magistrate and Collector in Basti and Gorakhpur till his appointment as Under-Secretary to Government on 18th December 1891. In 1894, he was appointed Registrar of the High Court of the North-West Provinces, and in 1899 became Deputy Commissioner of Fyzabad. In April 1905, he was appointed Secretary to Government, and on 4th October in the same year was made a Member of the Legislative Council of the Province.

Mr. HENRY FRASER HOWARD, Under-Secretary, Finance Department, Government of India, was born in the year 1874 in England, educated at Aldenham School and Trinity Hall, Cambridge. He was appointed to the I.C.S. after examination in the year 1896, and arrived in India, 9th December 1897; served in Bengal as an Assist-

ant Magistrate and Collector, and after being in charge of the Narayanganj Subdivision of the Dacca District for two years, was placed on special duty in connection with the Census of 1901; in the year 1902 he acted as Deputy Commissioner of Police in Calcutta for a short period, after which he was again employed on special duty in connection with the revision of the *Imperial Gazetteer* until February 1905, when he was appointed to his present position. Mr. Howard is an athlete and takes a keen interest in various forms of sport, he having won the mile race against Oxford in 1896-7, during his University career, and rowed in his College boat, head of the river, in the year 1896.

The Hon'ble Sir WALTER CHARLETON HUGHES, *Kt.*, C.I.E., M. INST. C.E., Chairman, Bombay Port Trust, Additional Member, Bombay Legislative Council, was born in September 1850, and received his education at King's College, London, of which he became a Fellow in 1898.

He joined the Public Works Department in 1868 as a "Stanley Engineer" (selected by competitive examination in England) and passed the earlier years of his service in the Irrigation Department. In 1884, he was appointed Under-Secretary to Government for Public Works, and was made Secretary to Government of Bombay, P. W. D., in 1887. The latter office he held till 1892, when he became Chairman of the Board of Trustees for the Port of Bombay.

Mr. Hughes was the first Chairman of the Bombay City Improvement Trust on the constitution of that body in 1898, but in 1900 returned to the Port Trust, though still continuing to serve as an elected Trustee on the Improvement Trust Board.

In September 1905, he retired from the Public Works Department as Chief Engineer, 1st Class, being then the senior officer of the Department in India and the last of the Stanley Engineers, but continues to hold the post of Chairman of the Port Trust.

He was for some time Chairman of the Board of the Victoria Technical Institute and a Member of the Bombay University (Syndicate and Dean in Engineering).

Between 1897 and 1904 he was nominated four times as a Member of the Governor's Council. He was President of the Aden Wharves Commission in 1901, and Chairman of an Expert Committee to advise on the improvement of the Port of Karachi in 1905.

Sir Walter Hughes married in 1889 Evelyn Isabel Rose, elder daughter of the late Colonel H. S. Hutchinson, I.S.C. He was appointed a Companion of the Most Eminent Order of the Indian Empire

in May 1900. He was Knighted for his distinguished services in January 1906.

Capt. LESLIE THOMASON ROSE HUTCHINSON, M.A., M.D., B.C., I.M.S., is Professor of Physiology, Histology and Hygiene at the Grant Medical College, Bombay. He was born at Clifton, Bristol, in 1872, and was educated at Repton, Trinity College, Cambridge, and the London Hospital, taking his degrees at Cambridge, B.A. with Honours (Nat. Sci. Tripos), 1892; M.A., M.B., B.C., 1897; M.D. 1902. He first spent eight months on the North Sea as Medical Officer to the Royal National Mission to Deep Sea Fishermen, and in the latter part of 1897, volunteered for Plague duty in Bombay at the time of its first outbreak. In May 1898, he returned to England and passed fourth into the Indian Medical Service in the following August. He was Prizeman in Clinical Medicine at Netley in January 1899, and, on returning to India in the same year,

was posted to Military duty in the Poona District. In 1900, he served as Secretary and Member of the Commission appointed by Govern-

Capt. LESLIE THOMASON ROSE HUTCHINSON.

ment to enquire into the alleged ill-effects following Plague inoculation. In 1901, he was appointed Personal Assistant to the P.M.O., Bombay Command, and in 1902 took up his present appointment. Captain Hutchinson was elected a Fellow of the Bombay University in 1905, is Honorary Secretary of the Bombay Medical-Physical Society, and Honorary Secretary of the Bombay Branch of the British Medical Association.

Mr. WILLIAM ARBUTHNOT INGLIS, Secretary, P. W. D. (Roads and Buildings Branch), Bengal, was born at Inverness, Scotland, on 5th December 1853. He was educated at St. Andrews and Wellington College. He passed into the Royal Indian Engineering College, Coopers Hill, when it was first opened in 1871, and joined the Public Works Department on the 1st October 1874. On his arrival in India he was posted to the Arrah Division and was employed for eight years as an Assistant on the construction and working of the Sone Canals. In 1883 he was appointed Executive Engineer, 4th Grade, and transferred to the office of the Superintending Engineer, Sone Circle. In 1885 he returned to the Arrah Division as Executive Engineer, and held charge of the Division till September 1891. He then officiated for a short time as Under-Secretary to the Bengal Government in the Public Works Department. From February 1892 to July 1893, he held charge of the Sone Circle as Superintending Engineer. On return from furlough in 1894, he was employed temporarily on special enquiries with respect to the Gumti River in the Tipperah District, and the Kosi River in the Purneah District. He then assumed charge in March 1895, of the Orissa Circle as Superintending Engineer, and, with an interval of six months in 1896 spent in the Sone Circle and in the Western Circle and of a year's furlough in 1900, remained in Orissa till June 1902, when he joined the Secretariat of the Bengal Government as Chief Engineer. Mr. Inglis has been employed mainly on the administration of the Sone and Orissa Canals, and has given his attention largely to the development of

the Revenue system of the canals. He has also interested himself in schemes for disposing of the volumes of flood waters in the rivers of Bengal which are in excess of the capacity of discharge of the natural channels.

Mr. SAMUEL GARDINER DE COURCY IRELAND, I.C.S., Under-Secretary to Government of United Provinces, son of William de Courcy Ireland, late of the Burma Commission, was born at Rangoon on 23rd January 1876.

Educated at King's College F. School, London, and Hertford College, Oxford. Joined the Indian Civil Service, 23rd October 1899, and arrived in India on 22nd November of same year. Served as Assistant Magistrate and Collector at Etawah, Cawnpore, Banda and Gorakhpur, and went through a course of Survey and Settlement training. Appointed Assistant Superintendent, Dehra Dun, 1903, and Officiating Under-Secretary to Government, 1905.

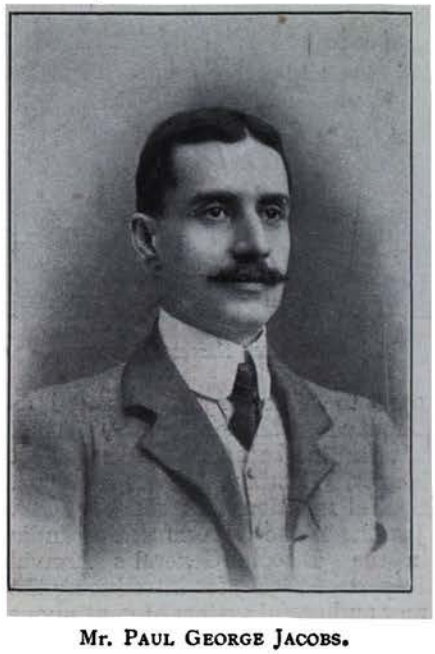
Hon. Mr. STANLEY ISMAY, C.S.I., I.C.S., Bar.-at-Law, Judicial Commissioner, Central Provinces. Mr. Stanley was born in Great Britain in the year 1848. He was educated at Bromsgrove. He entered for the Indian Civil Service competitive examination in the year 1869, and having passed, he proceeded to India in the ordinary course a couple of years later. His first service was in the Central Provinces, in which part of the country the whole of his subsequent service has passed, where he was appointed Assistant Commissioner rising successively to be Commissioner, Deputy Registrar, Inspector-General of Police and

Jails, charge of Small Cause Court, Jubbulpur; Divisional and Sessions Judge, and was finally appointed Judicial Commissioner in December 1897, which appointment he continues to hold to the present day.

Hon. Mr. Stanley Ismay.

The Hon. Mr. Ismay was called to the Bar at the Middle Temple in 1883. He was decorated a Companion of the Star of India in 1901, and in 1905 he was appointed an Additional Member of the Viceregal Legislative Council. He has published "Rules for the Superintendence and Management of Jails in the Central Provinces" (1885).

Mr. PAUL GEORGE JACOBS, A.M. INST.C.E., M.R.SAN.I., Executive Engineer, Public Works Department, Bengal, was born in Rangoon, Burma, in the year 1864. He proceeded home for the latter part of his education, which he received at Hampstead, and subsequently at the Royal Indian Engineering College, Coopers Hill, whence he passed out with the usual Diploma in the year 1886, and was appointed to the Indian P. W. D. as an Assistant Engineer. Mr. Jacobs remained one year in England for a practical course and served as an Assistant to the Clerk of Works on the new Cardiff Waterworks, then under construction near Merthyr-Tydvill, South Wales. He came out to India at the end of the year 1887 and was posted to the Darjeeling Division, as an Assistant Engineer. In the year 1888, he was ordered to Sikkim for the construction of some hill roads, to facilitate the passage of troops to the Thibetan Frontier in connection with the Sikkim Expedition. He returned to Darjeeling, after having partly completed the work, owing to ill-health, and a few months later was transferred to the Sone Circle in Behar, where he remained for four years on Irrigation work. His next experience was in South-West Bengal, in the Balasore Division, where he remained for three years in charge of Embankments and Navigation Canal works. In the year 1896, he was put in Executive charge of the Circular and Eastern Canals Division, where he remained for five years. During this period the canalization of the Bhangore Creek, costing about 12 lakhs of rupees, was carried out under his supervision. In the year 1900, he was engaged in establishing the new line from Khulna to Madaripore, known as the Bheel Route for the navigation of steamers bringing in jute from Eastern Bengal to the railway at Khulna. After one and-a-half year's furlough he returned to India and was posted to Northern Bengal as Executive Engineer of the Rajshahi Division; but having contracted jungle fever he was obliged to proceed on sick leave six months later; returning again in March 1904 he was posted to Calcutta as Executive Engineer of the Circular and Eastern Canals Division.



Mr. Paul George Jacobs.

Mr. Charles Streatfeild James

While on furlough he took up the study of sanitation, and after having attended lectures on sanitary science and visited sanitary works, appeared in December 1903 at the Examination held by the Royal Sanitary Institute of London, in practical sanitary science and obtained the diploma. He was shortly after elected a Member of the Royal Sanitary Institute.

Mr. CHARLES STREATFEILD JAMES, Member of the Institution of Electrical Engineers, Officiating Director, Construction Branch, Government of India, Telegraph Department, was born in the year 1859 in London, and was educated at Trinity College, Stratford-on-Avon. He passed into the Royal Indian Engineering College, Coopers Hill, in December 1877, where he completed his studies the following year, and was appointed by the Secretary of State for India to the Indian Telegraph Department on 26th January 1879, joining in

Calcutta of the same year as an Assistant Superintendent. He has served in Central India, Rajputana, Bengal, Bombay, Guzerat and Eastern Bengal, and has thus acquired an extensive knowledge of the country. He received his promotion to the rank of Superintendent, 2nd grade, in October 1894, and whilst in that grade held charge of the Telegraph Check Office in Calcutta, until November 1896. From this date till February 1899 he was in charge of the Lower Burma Division of Telegraphs. On January 15th, 1899, Mr. Streatfield James gained his next step in the Department, being then promoted to the 1st grade of Superintendents, and during the four years of his continuance in this grade held charge of the United Provinces of Agra and Oudh Division of Telegraphs. From August 1902 till March 1903 he was attached to the office of the Director-General of Telegraphs as temporary Chief Superintendent of Construction. Promoted to Chief Superintendent, 2nd class, November 8th, 1903, the following year brought him promotion to Chief Superintendent, 1st class; he receiving this step on 19th July 1904, and the same year also saw him advanced to the higher appointment of Deputy Director, August 27th, 1904, and in charge of the Office of Deputy Director of Construction. On 3rd April 1905, Mr. Streatfield James became Officiating Director (Construction) of Telegraphs. During his busy official career, Mr. Streatfield James has found time to contribute to the technical literature of his Department, being the Author of "The Morse Signaller's Companion" and also of "The Construction of Telegraph Spans, Angles, Stays and Wire Suspension Bridges," both of which works have been published by order of the Director-General of Telegraphs for the use of the Telegraph Department of the Government of India, the former being also used by the Telegraph services in Egypt, Ceylon, and Persia.

Mr. EDWARD RALEIGH JARDINE, Presidency Post Master, Bombay, was born in the year 1858 in the Bombay Presidency, and educated at Southsea. After completing his education, Mr. Jardine was appointed to the Marine Postal Service in 1876. He was Assistant Mail Officer in 1876 and became Mail Officer in 1877. He was Superintending Examiner, Persian Gulf Division, from 1886 to 1888. Officiated as Deputy Post Master, Bombay, in 1889. Aden was his next sphere of activity where he was Post Master in 1890. Mr. Jardine was on special duty in the Director-General's Office in 1893 and was made Deputy Post Master, Bombay, in the same year. Two years later Mr. Jardine was acting Presidency Post Master, Bombay. In 1899 Mr. Jardine was Post Master of Rangoon. From July

Major WILLIAM ERNEST JENNINGS.

1902 to March 1903, he acted as Deputy Post Master-General, Burma. Mr. Jardine became Presidency Post Master, Bombay, in April 1903. Special mention was made of Mr. Jardine to the Government of India in the Director-General's Annual Report of 1898-9 for introducing the new and useful system of continuous delivery in Bombay. Again in the Report of 1900-01 Mr. Jardine is mentioned for stopping opium smuggling through the Post Offices, Burma, and for organising Postal arrangements in Rangoon. Once again in the 1903-04 Report Mr. Jardine's name figures for reorganising postal arrangements in Bombay and for introducing a system of accurate postal maps of deliveries in the Presidency Towns.

Major WILLIAM ERNEST JENNINGS, M.D., D.P.H., J.P., I.M.S., Superintendent of Plague Operations in the Bombay Presidency, was born in 1865, graduated from the Edinburgh University in 1887, and entered the Indian Medical Service in the same year. Since his arrival in India in 1888 he has held various Military and Civil appointments, including the Medical charge of the 119th Infantry, all the Sind Horse Regiments and the 123rd Rifles; the Civil Surgeonship of Ratnagiri, Panch Mahals, Shikarpur and Rajkote and, on four occasions, the Acting Health Officership of the Port of Bombay.

In the last capacity he first came into contact with plague in 1896, and, thereafter, controlled several branches of plague administration, reaching his present position in 1901. A monograph upon Plague published by him in 1903 was adopted by Government for use in all Civil Medical Institutions in the Bombay Presidency. He is the Bombay Editor of the *Indian Medical Gazette*, Infectious and Tropical Disease Editor of *Treatment*, London, and a standing contributor to several other medical journals. In recognition of his plague services the Order of St. John of Jerusalem was conferred upon him by Her late Majesty Queen Victoria, Empress of India, and he is also a Fellow of the Royal Institute of Public Health, and of the Incorporated Society of Medical Officers of Health. Outside of his profession Major Jennings is well known in Masonic circles, being the Grand Master Depute of all Scottish Freemasonry in India, Burma and Ceylon, and also as a musician, having on several occasions acted as Organist of St. Thomas' Cathedral in Bombay.

Mr. ALFRED STEWART JUDGE, Chief Collector of Customs, Burma, was born in the year 1858, his father being the late Mr. William Judge, Attorney, formerly Secretary of the great Assam Tea Company, and one of the pioneers of tea cultivation in the Himalayas, the

tea estates founded by him in Darjeeling still remaining in the hands of the family. Mr. Judge was educated at Kensington School and, proceeding to India, joined the Bengal Police in January 1880. He

Mr. ALFRED STEWART JUDGE.

served with distinction as Assistant and District Superintendent in several districts, and was in charge of Patna in 1894 when he was transferred to Calcutta and appointed Collector of Income Tax. After holding this post for about a year he was transferred to the appointment of Superintendent of Customs, Calcutta, having the Preventive Service and Salt Department in that town in his charge. He served in this capacity for the next ten years when, on the formation of the Imperial Customs Service, he was selected to be Collector and posted to Rangoon as Chief Collector of Customs, Burma.

Mr. MICHAEL KEANE, B.A., I.C.S., Under-Secretary to the Government of the United Provinces, in the Revenue, Appointment, General and Political Departments, was born in County Kerry, Ireland, on the 14th June 1874, educated at Clongowes Wood School, County Kildare; proceeded to University College, Dublin, where he took his degree of Bachelor of Arts in the Royal University of Ireland. Entered the Indian Civil Service on 29th October 1898, and arrived in India on 21st November in the same year. Served as Assistant Magistrate and Collector at Benares, Sitapur, Meerut, and other places till appointed Assistant Settlement Officer of Jalaun in November 1905. On conclusion of settlement, remained on famine duty in that district till appointed to the Secretariat in his present capacity on January 24, 1906.

Mr. NORMAN WRIGHT KEMP, Barrister-at-Law, Chief Presidency Magistrate and Revenue Judge, Bombay, was born in the city where he now administers law and justice, and was educated at the Collegiate (Dr. Bryce's), Edinburgh, Scotland. He was called to the Bar at the Inner Temple in Michaelmas 1895, and came out to India shortly after. He acted as Official Assignee of the Court for Relief of Insolvent Debtors, Bombay, from 1902 to 1904, and was appointed Assistant Commissioner and Assistant Taxing Master, High Court, Bombay. Mr. Kemp's next change of office was made in February 1905, when he occupied the seat of Third Judge of the Court of Small Causes, Bombay, and also acted as Second Judge

in the same year. Mr. Kemp officiated in his present appointment from June to September 1905, in which month he was made permanent, on the promotion of Mr. Saunders Slater to the post of Administrator-General.

Mr. MICHAEL KENNEDY, J. P., Deputy Inspector-General of

Police for Railways and Criminal Investigation, was born in March 1859. He completed his education at Wellington College, Berkshire; came out to India late in 1876 and joined the Police Department as Assistant Superintendent in March 1877. Three years later, he was selected for special duty in charge of Police operations against dacoits on the Frontier between the British and the Nizam's territory, and for his effective services Mr. Kennedy received the thanks of the Government of Bombay and H. H. the Nizam's Government. In 1882 he was again employed on special duty in the Kaladgi District, became Superintendent of Police in 1885, and was sent to Kathiawar on special dutyto organize the Kathiawar Agency Police. From Kathiawar to Sind is not a far cry, and in 1893 Mr. Kennedy went to Upper Sind as District Superintendent of Police. The next year he was sent to Poona and held charge of the district off and on for about ten years. The authorities were happy in their selection when they appointed Mr. Kennedy to act as Inspector-General of Police, Bombay Presidency, in 1901,

he filled the post for sixteen months, leaving it in 1902 when he was again placed on special duty to prepare an important Police reorganisation scheme affecting the whole force of Bombay Presidency proper. Having sent in his report, he reverted to Poona for a time. When Lord Curzon's Police Commission visited Poona in 1903, Mr. Kennedy was chosen for special duty as the representative local member. On return from leave he acted as Police Commissioner, Bombay, in 1904 for six months. Next he acted for the second time as Inspector-General of Police for two months, and received his promotion from the grade of District Superintendent to that of Deputy Inspector-General of Police.

During the time he was District Superintendent of Police, Poona, the Jubilee Murders of 1897 occurred, when Mr. Rand, I.C.S., and Lieutenant Ayerst were murdered on their way back from an entertainment at Government House, Ganeshkhind. Mr. Kennedy was in charge of the Police enquiries in this case which ended in the arrest of the culprits (the now notorious Chapekar brothers and others) who paid the extreme penalty of the law.

Mr. ROBERT GREIG KENNEDY, Public Works Department, India, Chief Engineer and Joint Secretary, Irrigation Branch, Government of the Punjab, was born in Leith, Scotland, in 1851. Trained at R. I. E. College, he was appointed on the 1st October 1873 to the Public Works Department, and employed on irrigation works in the Punjab; he was appointed Executive Engineer in October 1881, and transferred to Baluchistan in October 1884. He returned to the Punjab in August 1890, was appointed Superintending Engineer in February 1898, Chief Engineer, Bengal, in January 1903, and Joint Secretary to the Government of the Punjab (Irrigation Department) in March 1904. He is author of a Report on Irrigation in the United States and Irrigation Hydraulic Diagrams.

Mr. CHARLES AUGUSTUS KINCAID, I.C.S., Judge of the District Court, Poona, and Agent for the Sirdars of the Deccan, was born in the year 1870, educated at Sherborne School, and passed out of Balliol College, Oxford, under the old rules and came to India towards the end of 1891. Mr. Kincaid was attached to the office of the Commissioner of Sind, Karachi, till August 1892. He has served as Assistant Collector and Magistrate in Hyderabad (Sind), Shikarpur, Karachi and Satara, between 1892 and 1897. He was sent in June 1900 as Judicial Assistant to the Political Agent, Kathiawar, and remained there till he was gazetted to his present position in May 1905, possessing an observant mind, and literary taste, Mr. Kincaid published an interesting book called "The Outlaws of Kathiawar" in which an opportunity was afforded to those who wished it to gain an insight into the lives of the people of that district. Mr. Kincaid is Agent for the Sirdars of the Deccan, and also the Political Officer as well as Judge, acting between the Bombay Government and the Deccan Hindu aristocracy, who swore their allegiance to the British at the fall of the Peshwa's Government in the year 1817, A. D.

Mr. ALEXANDER VANSITTART KNYVETT, C.I.E., officiating Inspector-General of Police, L. P., substantive grade, Deputy Inspector General of Police. Mr. Knyvett is the head of the Criminal Investi-

gation Department in Bengal and has had long experience in criminal cases in India and the habits and methods of Indian criminals, gathered during a long career devoted to police and detective work. His Companionship of the Order of the Indian Empire was gained for long and meritorious services to the Government of India. Mr. Knyvett was born in India in the year 1848, his father being Major-General William John Baptist Knyvett of the Knyvetts of Ashwellthorpe, Co. Norfolk. He joined the service in the year 1867 on the 1st of January, and rose through the various ranks of the Indian Police Department, being for many years engaged in District work in which he gained the great store of information which has served the cause of law and order so well. In 1881 he was appointed Personal Assistant to the Inspector-General of Police and remained in this appointment for the next decade and more. He received the thanks of Government for his services in connection with the identification of criminals by means of Anthropometry. He was in charge of the special work of reorganisation of the Bengal Police from 1891, and in 1896 was

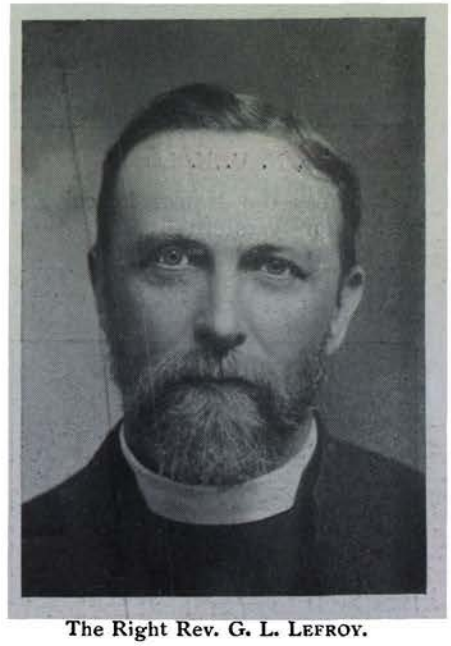
appointed Deputy Inspector-General of Police, Northern and Western range, and held several similar appointments till posted to act in his present capacity. This is the sixth occasion on which Mr. Knyvett has acted as Inspector-General of Police. Mr. Knyvett served in the Lushai and Sikkim campaigns (Medal) and was Secretary and Member of the Bengal Police Commission, 1892, and was placed on special duty in the reorganization of the Bengal Police, 1903. A year before the appointment of the Indian Police Commission Mr. Knyvett foreshadowed in his report, at an annual cost of 36 lakhs, all those changes for the improvement

The Hon. Mr. R. A. LAMB.

of the Police service which the Commission subsequently recommended and which are now being introduced in all the Provinces of India. Throughout his long career he has shown special skill in criminal investigations, and forgery cases are a speciality of his. In the latter line he made a most notable success in the discovery and conviction of the gang of Bengal forgers, who had been engaged since 1885 in a series of skilful forgeries of G. C. Notes, and who more recently uttered forged Government Promissory Notes for large amounts, defrauding the Allahabad Bank in a single day of the large sum of Rs. 80,000. Mr. Knyvett's recreation is sport. He is well known in Bengal as a first class shot and a skilful fisherman.

The Hon'ble Mr. RICHARD AMPHLETT LAMB, C.I.E., I.C.S., J.P., Commissioner, Central Division, Bombay Presidency, was born at Poona in 1858, and received his education at Highgate School, London. He passed into the Indian Civil Service in 1877 and two years later came out to India and was appointed Assistant Collector, Poona. The large district of Khandesh was his sphere of work for the seven years commencing from 1880 as Assistant Collector and afterwards as Forest Settlement Officer, and from March to May 1886 he was on special duty with the Khandesh-Baroda Boundary Settlement Commission. His services being placed at the disposal of the Government of India in February 1887, Mr. Lamb was sent to Burma as Deputy Commissioner, serving in the districts of Mergui, Amherst, Ava, Ye-U, and Sagaing; he received the Indian Medal, with Clasp Burma 1887-89. On his return from leave in 1892, he served as Collector and District Magistrate in various districts of the Bombay Presidency, including Satara, Kanara, Kolaba and Poona; he was also the Political Agent for the States of Aundh Phaltan, Janjira and Bhor. While at Poona he was Chairman of the Plague Committee and the chief authority in connection with plague, and for his public services Mr. Lamb was decorated in May 1900 with the Kaiser-i-Hind Medal, First Class. In November of the following year further honour was bestowed on him when he was appointed Companion of the most Eminent Order of the Indian Empire. He was Collector and District Magistrate of Ahmednagar between 1899-1904, and during a part of this time was on special duty in connection with the rectification of the frontier between the Bombay Presidency and H. H. the Nizam's dominions. In 1904 he was appointed Secretary to the Government of Bombay in the Revenue and Financial Departments. He is an Additional Member of the Bombay Legislative Council. On account of his keen interest in motoring Mr. Lamb was unanimously elected Chairman of the Western India Motor Union.

The Right Rev. GEORGE ALFRED LEFROY, D.D., Bishop of Lahore, was born in County Down, Ireland, in 1854, his father being the Very Rev. Jeffrey Lefroy, Dean of Dromore, son of Chief Justice Lefroy, of the Queen's Bench, Ireland. He was educated at Marlborough, and Trinity College, Cambridge, and took a first class in the Theological Tripos. He was ordained in the year 1879, and joined the Cambridge Mission in Delhi the same year. His whole pastorate career has been spent in India, and



The Right Rev. G. L. LEFROY.

after twelve years' labour he became head of the mission which he had served from the beginning—the United Society for the Propagation of the Gospel and Cambridge Mission. He was enthroned Bishop of Lahore in 1899.

Mr. NORMAN UNIACKE KNOX LESLIE, Superintendent of the Bombay Telegraph Office, was born in the year 1867, in Cork, Ireland, and educated at Cheltenham College. He was at Coopers Hill College from 1887 to 1889, in October of which year he came to India to take up his appointment in the

Indian Telegraph Department. He was promoted to his present appointment on 19th September 1901,

Mr. N. U. K. Leslie.

and is also the Meteorological Reporter for Western India.

Mr. THOMAS CROMPTON LEWIS, M.A., late Fellow of Trinity

Mr. T. C. Lewis.

College, Cambridge; Sixth Wrangler (1875); Sheepshanks Astronomical Exhibitioner; Fellow of the Cambridge Philosophical Society, and of the Physical Society of London; Fellow of the Calcutta and Punjab Universities; Director of Public Instruction, United Provinces of Agra and Oudh. Born at Carnarvon on 4th November 1851. He was engaged in college and university work at Cambridge till he joined the service, by appointment of the Secretary of State, in 1881. Served as Professor of Mathematics, and Principal, Government College, Lahore, and Inspector of Schools, Lahore Circle; officiated as Director of Public Instruction, Punjab. In 1894, he was appointed to his present post of Director of Public Instruction, North-West Provinces and Oudh, as the Province was then designated. In 1904, he served on the Committee appointed by the Government of India to report on the financial position of hill schools for Europeans in India. Mr. Lewis is the author of a number of papers which have appeared in the "Quarterly Journal of Mathematics," and in the "Messenger of Mathematics," or have been read before the British Association for the Advancement of Science; as also of (1) Arithmetic for Schools and (2) Heroes of Science: Mechanicians. (Pub. S. P. C. K.).

Lieutenant-Colonel FRANCIS BACON LONGE, R.E., Surveyor-General of India, is the eldest son of Robert Bacon Longe, Esq., of Spixworth, Paile, Norfolk, and was born at Yarmouth on the 31st October 1856. He received his early education under a private tutor in Normandy, and subsequently entered Cheltenham College, from which he passed direct into the R. M. Academy, Woolwich, at the end of 1873. In 1876, having passed his examination for the Royal Engineers, he received a commission; was kept one of a batch of Cadets who were at Woolwich five full terms; he was, however, offered a commission in the Royal Artillery, but refused, his great ambition being to get appointed to the Survey of India; hence he volunteered for service in India and succeeded. On his arrival in Bombay, in January 1879, he received orders to report himself to the Commanding Royal Engineer at Jellalabad, Afghanistan, and immediately proceeded there, but on arrival was posted to the Kurram Valley Field Force under Lord Roberts. He, therefore, returned to Peshawar, marched to Kohat

Lt.-Col. F. B. Longe.

and joined the 7th Co., Bengal Sappers and Miners, to which he was posted. He was almost immediately ordered to make a road survey from Thall to Alikhel, and when the force advanced to Kabul he was deputed to continue the work to that place. Having completed this within a day of the arrival of the first troops at Kabul, with great accuracy, he was recommended for an appointment in the Survey Department, and was posted to it as a Supernumerary Assistant Superintendent. In 1880, after working in Kabul for some months, he accompanied the Field Force to Kandahar, and surveyed there till the withdrawal of the troops in 1881. He was employed in Mysore and the United Provinces till 1885, when he was sent to Calcutta as Personal Assistant to the Surveyor-General. The same year he was sent to Suakin in charge of the survey for Sir Gerald Graham, and on his return was given charge of the South Maratha Survey, till he was appointed in 1886, in charge of No. 15 party working in Baluchistan. On his return from England in 1888, he was appointed to No. 21 Party surveying in Upper Burma, the Kachin Hills and Shan States till 1896, when he was appointed Assistant Surveyor-

General at Calcutta. The following year he was deputed as Survey Officer with the Burma-China Boundary, and on his return proceeded to England owing to ill-health. In 1900, he was appointed Deputy Surveyor-General, and two years later acted as Surveyor-General. In 1904 and 1905, was on deputation as a member of the party attached to the force under the Indian Survey Committee, and the same year was appointed Surveyor-General of India. For his war services, Lieutenant-Colonel Longe received the Afghan Medal and three Clasps, the Kabul-Kandahar Bronze Star, the Egyptian Medal and Clasp, and the Egyptian Star—as well as the Frontier Medal and Clasp for service in Burma, and was several times mentioned in Despatches.

The Reverend WILLIAM ARTHUR GRANT LUCKMAN, M.A., Canon and Senior Chaplain, St. Paul's Cathedral, Calcutta, was born in England in 1857, and is the eldest son of the Reverend W. G. Luckman, Bath, England. Mr. Luckman took his M. A. at Keble

College, Oxford, and was Assistant Master at St. Columba's College, Rathfarnham, near Dublin, and at Yarlet Hall, Stafford. He came to India in 1883 and was appointed Head Master of the Boys' High School at Allahabad, a post he continued in till March 1887 when he was appointed Junior Chaplain of St. Paul's Cathedral, Calcutta. His next incumbency was at Nainital in 1891, again at St. Paul's in 1893, St. John's, Calcutta, for the year 1894, Cathedral 1897. He was made a Canon in 1900.

Mr. WILLIAM BERNARD MACCABE, M.INST. C.E., F.I.C. (*Lieutenant, Calcutta Port Defence Volunteers*), Chief Engineer to Calcutta Municipality, was born in Ireland in 1864, and is a son of Sir Francis MacCabe, late Medical Commissioner of the Local Gaol Board for Ireland. He was educated at Dublin University in the Engineering School, and on taking his degree in 1889, was employed on the new Limerick Water Works and on the construction of various Railways. In 1891 he entered the service of the Dublin Corporation in connection with the Drainage Scheme and served for two years. In 1893 he was appointed Engineer-in-Chief of the Dublin Water Works and various other municipal undertakings. He received the appointment of Chief Engineer to the Calcutta Municipality in July 1903, and arrived in Calcutta in October of the same year to enter upon his duties. The water-supply and drainage schemes of Calcutta are both on a great scale, and present many difficult problems. The conditions to be faced in a city that is partly European but mainly Indian are obviously complicated, and the Municipality has to deal with questions that are hardly thought of elsewhere. The filtered and unfiltered water-supply to the enormous population of Calcutta is a matter of increasing difficulty, and one that is constantly being subjected to the severest criticism. There are under consideration big schemes that should make the water service complete, and they involve heavy work and the highest technical skill. The drainage of a city subjected to seasons of tropical rain, has naturally to be treated in a different way to that of a city subject to ordinary conditions, and the work of a Chief Engineer is difficult and of necessity often experimental. It is hard to imagine a Municipality that makes so many demands on the resources of its engineering staff. The densely crowded native quarters, the crooked and ill-designed streets, and the thousands of insanitary bustees make the work

of the municipal officers one of great difficulty. Mr. MacCabe energetically threw himself into the work of reorganizing and reconstructing his department, and the fruition of his schemes will be hopefully looked forward to. Mr. MacCabe was made a Member of the Institution of C. E. in 1902. Before arriving in India he devoted much time to the study of chemistry in its relation to Engineering. He studied under Sir Chas. Cameron, C.B., M.D., Health Officer and Public Analyst for Dublin, and Professor J. E. Reynolds, F.R.S. This special knowledge should prove of particular value in his present work. Mr. MacCabe entered the Artillery Company of the Calcutta Port Defence Volunteers and has served as a Lieutenant since November 1903. Mr. MacCabe as a member of the Irish Rifle Association achieved repute as a match rifle shot.

Capt. JAMES HALDANE McDONALD, M.B., C.M., I.M.S., Personal Assistant to the Surgeon-General to the Government of Bombay (now acting as Presidency Surgeon, 2nd District, and Superintendent of the Lunatic Asylum, Bombay), was born on the 30th November 1869 in Bombay, where he was educated partly and finished

his course by graduating at the Edinburgh University in 1894. Joining the service in January 1895 he came to Bombay in April, and was in Military employ for the following three years, during which time he served in

Mr. J. MACFARLANE.

different parts of that Presidency He saw active service in the Tirah campaign of 1897. Entering the Civil Medical Department in 1898, he was on plague duty at Karachi. The year following he was appointed Personal Assistant to the Surgeon-General to the Government of Bombay. He was the Medical Officer of the Famine Relief Works at Ahmedabad in 1900. In addition to his duties as Personal Assistant, Captain Macdonald was Chief Medical Officer of Plague Operations, Bombay Presidency; in October 1902 and the next year he was Inspector of Factories within local limits of the city. For a short time (June) he was acting as Professor of Materia Medica at the Grant Medical College in 1904.

Mr. J. MACFARLANE, Librarian, Imperial Library, Calcutta. Born at Merlevale, Warwickshire, in the year 1866, educated at Atherstone Grammar School. In 1885 he was appointed Assistant Librarian in the British Museum Library. When the Imperial Library was opened to the public in the year 1901 Mr. Macfarlane was offered and accepted the post of Librarian to that Institution. He has also been officiating in charge of the Records of the Government of India on several occasions. Mr. Macfarlane is a Fellow of the Calcutta University, Honorary Secretary of the Asiatic Society of Bengal, and a Trustee of the Indian Museum, and is the author of two works "Antoine Verard," 1899, an illustrated monograph on printing and publishing in France in the 15th century, "Library Administration," 1898. He is also the translator of Vol. 2 of Clermont-Ganneau's "Archæology of Palestine."

Lieut.-Col. ROBERT SMEITON MACLAGAN, R.E., Executive Engineer, P. W. D., Punjab, was born at Rurki, North-West Provinces, India, in 1860, and is the son of late General Robert Maclagan, R.E., who was for some years Chief Engineer, P. W. D., of the Punjab.

Lieut.-Col. Maclagan was educated at Haileybury and Woolwich R.M.A., and received his commission in February, 1880, after which he served three years in England. He

Lieut.-Col. ROBERT SMEITON MACLAGAN.

came to India in 1883 and joined the Military Works Department in March of that year as Assistant Engineer, was transferred to P. W. D., Punjab, in August 1883, was promoted to Executive Engineer in May 1849 and to Under-Secretary to the Government of Punjab in May 1902 and two years later to his present position.

Lieut.-Col. Maclagan has seen considerable active service. He served

Mr. JOHN MOLESWORTH MACPHERSON.

in the Black Mountain, North-West Frontier in 1888, as Assistant Field Engineer, in Miran Zai in 1891 as Field Engineer, and again in the 2nd Black Mountain Expedition in 1891, also in Waziristan in 1894, and in the Tochi in 1897 as Field Engineer, and in the South African War in 1900.

Mr. JOHN MOLESWORTH MACPHERSON, C.S.I., Secretary to the Government of India, Legislative Department, was born in Calcutta on the 8th August 1853. He is the eldest son of the late John Macpherson, M.D., of the Indian Medical Service, who served for seventeen years in Calcutta and was well known in private practice.

Mr. Macpherson was educated at Westminster School, London, and was called to the Bar, Inner Temple, in 1876. The same year he was appointed Advocate of the Calcutta High Court, and in December 1877 he was appointed Deputy Secretary to the Government of India, Legislative Department. After officiating some six times as Secretary he received the permanent appointment in December 1896. During his long career

he has served under six different Viceroys. Mr. Macpherson has written a valuable legal work, which is in its 7th Edition, entitled "Macpherson's Law of Mortgages in British India." He has compiled in six volumes "Lists of British Enactments in force in the Native States." The decoration of C.S.I. has been conferred on him as a recognition of his distinguished services in the Legislative Department of the Government of India.

Mr. Macpherson is a member of a family that holds a notable record in the history of India. His grandfather, a well-known Aberdeen Professor, was the adopted son of Sir John Macpherson, who was Governor-General of India in succession to Warren Hastings. He did not come to India, but his two brothers were in the service of the East India Company. Mr. Macpherson's father had six brothers in India, among whom was Major S. Charters Macpherson, C.B., who was instrumental in putting down the practice of human sacrifices. Major Macpherson acted as Political Agent to the Maharaja of Gwalior during the anxious period of the Mutiny, and the weight of his influence helped considerably to induce the Maharaja to cast in his lot with the fortunes of the British. Other uncles in the Indian services were : Mr. Wm. Macpherson, who became Judicial Secretary to the India Office in London ; Hugh Macpherson, M.D., who became Deputy Surgeon-General, rising to a high position in the Indian Medical Service ; General R. Macpherson, of the Commissariat Department ; and Sir Arthur Macpherson, Judge of the High Court of Calcutta and afterwards Judicial Secretary in the India Office.

His grandfather on his mother's side was the Rector of Moville, Ireland, being the younger brother of Sir Thomas Staples, *Bt.*, of Lesson, Ireland.

Mr. Macpherson married Edith, daughter of the late General C. W. Hutchinson, R.E.

Col. RODERICK MACRAE, M.B., I.M.S., Inspector-General of Civil Hospitals, Bengal, is the second son of the late John Macrae, of the Macraes of Glenshiel, and was born at Lochalsh, Rosshire, Scotland. He was educated at the Royal Academy, Inverness, and the University of Edinburgh, where he graduated with distinction in 1873.

He entered the Indian Medical Service in 1875, and after passing through Netley arrived in India in November of the same year.

He was first posted to the Presidency General Hospital, Calcutta, where he did duty for six months, and in May 1876 was appointed to the medical charge of the 32nd Pioneers at Umballa. In November 1876 he was ordered to Meerut to take charge of the 5th Bengal Light Infantry with which regiment he marched from Meerut to Bhagalpur. He remained at the latter station until the outbreak of

the Afghan War in 1878 when he was posted to the Field Force in the Kurram Valley. He was present during the operations in the Kurram Valley until April 1879, when he was appointed to the charge of the 2nd P.W.O. Goorkhas then in the Jellalabad Valley, where they continued to serve for some months. He returned with the Regiment on the conclusion of the first phase of the Afghan War and was with them during the "death march" through the Khyber Pass when some hundreds of deaths occurred from cholera. He again accompanied the Regiment to Cabul after the "Cavagnari Massacre" and was present at the affair in the Gugdulluck Pass, and accompanied Sir Charles Gough's column to the relief of Sherpur in December 1879. While the force remained at Cabul he was present at various operations in the Kohistan, Logar, and Maidan valleys. In 1880 he joined the 28th Punjab Native Infantry at Cabul. On the withdrawal from Cabul he was among the officers present in the "historical tent" outside Sherpur in which the throne of Cabul was made over to the late Abdur Rahman.

On return to India he was thanked for "excellent services in the field" and was offered the Garrison Surgeoncy of Chunar. He took over charge at Chunar early in 1881, and took "private affairs leave" in India from 10th July to 31st December 1881. Early in 1882 he elected for civil employ, and on the 27th April of that year was appointed Resident Surgeon at the Medical College, Calcutta. In December he was appointed Civil Surgeon of Jalpaiguri, and during 1883 and 1884, was successively Civil Surgeon of Jalpaiguri, Rajshahi, Shahabad, and Alipore, in the 24-Parganas. On 23rd November 1884 he went on furlough for two years. On return from furlough in November 1886 he acted as Civil Surgeon of Saran and Nadiya for short periods, and became Civil Surgeon of Shahabad in April 1887, where he remained until February 1891; when he went to Champaran, from which district he again went on furlough for one year and eight months in April 1892. On return from furlough in December 1893, he first acted as Health Officer, Calcutta, then became Civil Surgeon of Gaya on 30th January 1894. During a cholera epidemic in the Gaya Jail, Colonel Macrae gave Mr. Haffkine his first opportunity of testing in a scientific manner his system of preventive inoculation for cholera. It was during the same epidemic that he proved for the first time the agency of flies in the diffusion of the disease, which had only previously been suspected. In May 1896, he went on six months' leave on urgent private affairs, and returned to India as Civil Surgeon and Superintendent of the Medical School, Dacca, in November 1896. He remained there

till June 1901, when he again went on furlough and returned to India in November 1902. He was appointed Civil Surgeon, 24-Parganas, and Medical Inspector of Emigrants, and subsequently Civil Surgeon of Hazaribagh. His services were placed at the disposal of the Government of India, Home Department, from 3rd April 1904, and he was appointed Inspector-General of Civil Hospitals, Central Provinces, with rank of Colonel.

From 12th December 1904 to 20th February 1905 he was in military employ, and on 12th February was promoted Colonel, and appointed Inspector-General of Civil Hospitals and Sanitary Commissioner, Burma. On the 11th September 1905, he was appointed Inspector-General of Civil Hospitals, Bengal.

He is the author of various papers on "Preventive Inoculation in Cholera," Flies and Cholera Diffusion; Salol in Cholera, Cataract, Litholapaxy, &c.

Lieut.-Col. CHARLES MACTAGGART, M.A., M.B., M.C.H., I.M.S., University of Glasgow, Inspector-General of Prisons, United Provinces, was born at Campbeltown, Scotland, on 27th March 1861. Educated at Glasgow University. Joined the service as Surgeon, Bengal Medical Establishment, on 1st April 1886. Arrived in India 6th October in the same year. Until July 1889, Colonel Mactaggart served with the Military Establishment, and on 10th July of that year he was transferred to Civil employ. He was Superintendent of the Central Jails at Benares, Agra, Allahabad and Lucknow, till he was appointed to officiate as Inspector-General of Prisons in September 1898. In 1902, he was made substantive in this appointment which he holds to the present day. He obtained his rank as Lieut.-Colonel on 1st April 1906.

Mr. STUART LOCKWOOD MADDOX, M.A., I.C.S., Director of Land Records and Agriculture (Bengal), was born on 3rd June 1866, and is the younger son of the Revd. R. H. Maddox, B.D., Rector of Kirkheaton (Eng.). Mr. Maddox graduated as Master of Arts (Oxon.), and joined the I. C. S. on 31st October 1887, arriving in India on the 23rd November of the following year. He married the elder daughter of the late Brigade-Surgeon-Lieutenant-Colonel C. J. W. Meadows, I.M.S., in February 1897, His first appointment was that of Assistant Magistrate and Collector, posted to Gaya, and he became Joint-Magistrate and Deputy Collector, 2nd grade, in November 1894, obtaining his next step to the 1st grade four years later, in March 1898. He was at home on leave of absence for about twenty-one months from March 1900 to November 1901. On his return to duty Mr. Maddox became Magistrate and Collector of Durbhunga, one of the most important districts in Behar, and after holding that appointment for rather over a year, he was selected for his present appointment in Calcutta in February 1903, having previously officiated as Director of this department from December 1899 to March 1900. Mr. Maddox also served for seven years in the Land Revenue Settlement of the important district of Orissa from 1892 to 1899, and as Director of Agriculture he is *ex-officio* Secretary of the Bengal Provincial Agricultural Association.

The Director holds charge of two departments, one being that of Land Records, including Settlements, and the other, Agriculture, and is assisted by a Deputy Director and two Assistant Directors in the latter branch, and a Personal Assistant in the former. The Department

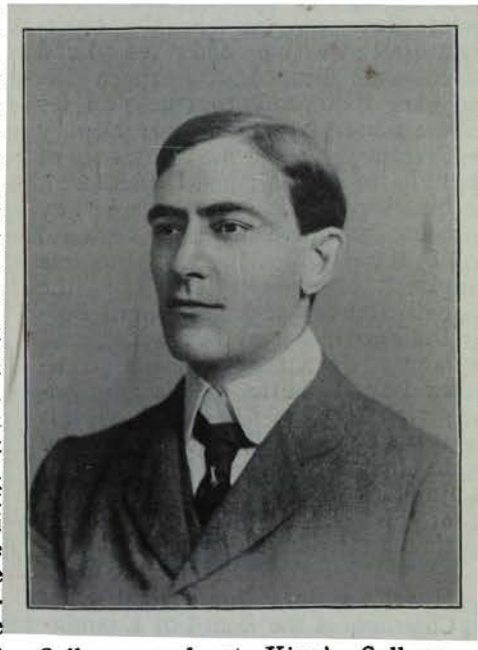
of Land Records and Settlements, under the control of the Director, includes supervision of maintenance of the records-of-rights, and of the larger settlements of rents and land revenue throughout the province of Bengal.

The Agricultural Department, also under the Director's control, receives from Collectors of Divisions forecasts of all crops, and these are compiled by the Director and regularly published for public information, and are of much value to trade generally. In addition the Government Farms, and the large farms under the Court of Wards, are under his supervision and management, and for these purposes he has a staff of four itinerant Overseers and Resident Overseers at the farms, and these, with the Deputy Director and the two Assistant Directors, all of whom are selected for their expertness in agricultural matters, form the staff of the Department. As the Government of India has recently sanctioned a grant of 20 lakhs of rupees per annum for the development of the Provincial Agricultural Departments, there is every prospect of expansion of work and increased usefulness before the Bengal Agricultural Department.

Mr. EVELYN JOHN MARDON, B.A., LL.B. (Cantab.), F.R.G.S., F.S.A., I.C.S., Bar.-at-law (Inner Temple), Inspector-General of Registration and Commissioner of Excise and Stamps, United Provinces, son of H. Mardon, Esq., J.P., of Dulverton, Somersetshire. Born at Westbury-on-Trym, Gloucestershire, England. Educated partly in Germany and France, but principally at Clifton College. Afterwards at Christ's College, Cambridge. Entered the Indian Civil Service, 22nd August 1888, and arrived in India 11th November 1889. Served at Lucknow and other stations as Assistant Magistrate and Collector till appointed to officiate as Magistrate and Collector in 1894, was promoted Deputy Commissioner in 1897, and received his present appointment on 1st December 1904. He is the author of "Trade and Administration in British East Africa." Mr. Mardon was in political charge of the Rajahs and Nawabs of the United Provinces at the Delhi Durbar, for which he received the Delhi Medal. His recreations are shooting, hunting, polo and photography. In the pursuit of big game he has visited the Rockies of Canada

and the States, New Brunswick, Asia Minor and East Africa, besides the plains and hills of India. He has presented the Royal Geographical Society with photographs taken in parts that are little known.

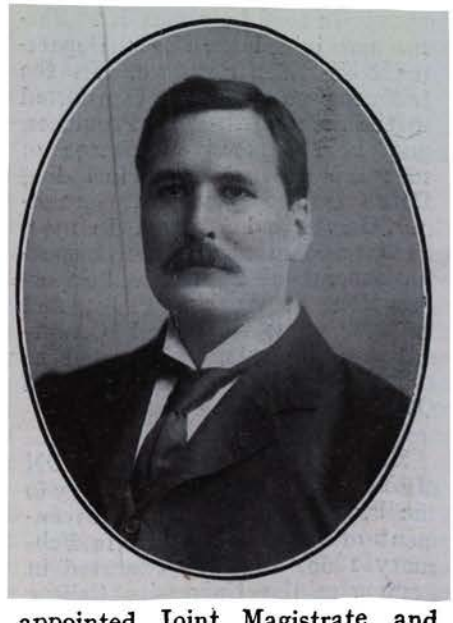
Mr. JOHN HUBERT MARSHALL, M.A., Director-General of Archæology, son of F. Marshall, K.C., of the Inner Temple, was born at Chester in the year 1876, and was educated at Dulwich



College, and at King's College, Cambridge. He was a foundation scholar in Classics at King's; won the Porson Prize for Greek; took a double first in the Classical and Archæological Triposes; and, after taking his degree, was elected to the Prendergast and Craven University Fellowships. He afterwards became a student of the British School of Archæology at Athens, and followed up his antiquarian studies among Continental Museums and in the Nearer East, where he was associated for some time in the exploration of Crete. Mr. Marshall married in 1902 Florence, younger daughter of Sir Bell Longhurst, and was appointed in the same year to the general direction of the Archæological Survey of India.

Mr. NICHOLAS MAUGHAN, A.M.INST.C.E., Deputy Executive Engineer, Drainage, Ordinary Branch, of the Bombay Municipality, was born in London in 1875, and educated at Westminster School and the Crystal Palace School of Engineering. On obtaining his certificate of the first class, for Engineering, he was articled in 1895 to Messrs. John Taylor, Sons, and Santo Crimp, Civil Engineers, Great George Street, Westminster. His articles completed, Mr. Maughan was appointed Resident Engineer, Enfield Water Works New Pumping Station, in which appointment he served for one year. On the expiration of this he took up the duties of Resident Engineer, Main Drainage of Woking, in which connection a paper, written by Mr. Maughan, has been published by the permission of the Council in the minutes of the Institution of Civil Engineers. His next appointment was that of Resident Engineer, Ilford Drainage Works, serving there for a short period before joining his present appointment in January 1901. Mr. Maughan is a Member of the Royal Sanitary Institute of London.

Mr. WILLIAM MAXWELL, I.C.S., Deputy Director-General of Post Office, India, was educated at Belfast Methodist College, Royal University of Ireland, and Trinity College, Dublin. He was appointed, after examination, to the Indian Civil Service in 1889; arrived in India 3rd December 1891; and served in Bengal as Assistant Magistrate and Collector, was



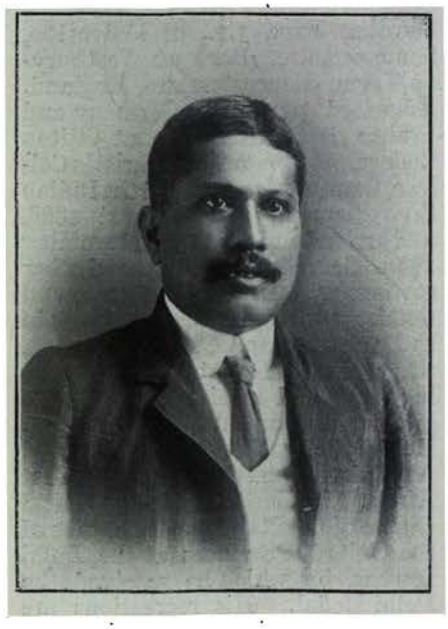
appointed Joint Magistrate and Deputy Collector April 1897, Officiating Postmaster-General, Bombay, in October 1900, and Deputy Director-General of Post Office of India in March 1903.

Mr. LAURENCE MERCER, Conservator of Forests, Western Circle, United Provinces, headquarters Naini Tal, was born in England in the year 1863, and received his education at Harrow. Thence he went to Nancy, France, and studied Forestry at the College in that town. In 1886, he came out to Burma and joined the Forest Department in that Province. In the following year, he was transferred to the then North-West Provinces, and held successively charge of several Forest Divisions including Dehra Dun, Saharanpur, Gorakhpur, Gonda, and Garhwal. In 1902, he was appointed Assistant Inspector-General of Forests and Superintendent of Working Plans, and in 1904, was appointed Conservator of Forests, and posted to the United Provinces of Agra and Oudh.

Mr. WILLIAM STEVENSON MEYER, C.I.E., I.C.S., Secretary to the Finance Department, Government of India, was born in February 1860, and was educated in London at the University College School and University College. He is a graduate of London University.

He passed into the Indian Civil Service in 1879, and came out to India, to the Madras Presidency, in 1881. He has filled various district appointments, from Assistant Collector to Collector and District Magistrate in Madras, and has also been Under-Secretary to the Madras Government, Deputy Commissioner of Salt and Excise, and Secretary to the Madras Board of Revenue, both in the separate Revenue and the Land Revenue Branches. Between the years 1896 and 1901 he was for the most part employed as Deputy Secretary to the Government of India in the Finance Department, his services in this capacity being rewarded by the bestowal of the C.I.E. In 1902 he was placed on special duty for the redistribution of District and Sub-Divisional charges in Madras, and later in the same year was appointed Indian Editor of the new *Imperial Gazetteer*. He received his appointment as Financial Secretary to the Government of India in January 1905. Mr. Meyer, in spite of his official duties, has found time to write interesting and suggestive *brochures* on Roman History, and was for several years Chairman of the Board of Examiners in History and Economics in the Madras University. Mr. Meyer's office is one that demands wide experience.

Mr. JYOTISH CHANDRA MITRA, Deputy Comptroller, India Treasuries. Mr. Mitra was born in November 1869 at Calcutta and received his education at the Hindu School in the same city, proceeding afterwards to the Presidency College for the Collegiate Course. He graduated at the Calcutta University in 1889 with first class honours in Physical Science and Mathematics, and obtained the Degree of Master of Arts in Physical Science with two gold medals in November 1890, and in March 1891 took the degree of Bachelor of Law in the first class, standing third in order of merit. Intending to embark upon a legal career, he had been articled to a Vakil of the High Court for two years, and went up for his examination before the Judges of the Calcutta High Court and passed the same. Obtaining a nomination for the Enrolled List of the Financial Department of the Government of India in 1892, Mr. Mitra abandoned the law and, after passing the competitive examination, he joined the Department in the office of the Comptroller, Burma, in the same year. Here he remained till July 1896 when he was transferred to Madras in the same Department as Assistant Accountant-General. He was in Madras for over two years, and in November 1898 was appointed to the Office of the Comptroller, Indian Treasuries as Assistant. In January 1903, he was transferred to Madras as Inspector of Local



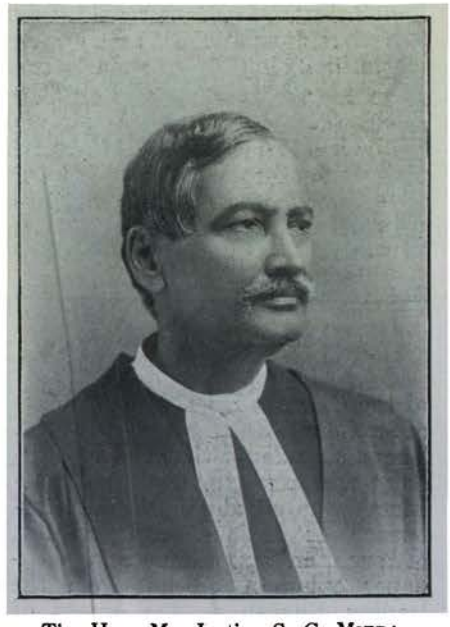
Fund Accounts, and he was appointed as Deputy Comptroller, November, 1903.

Rai Saheb BENI MADHAB MITRA, Executive Engineer, 2nd Grade, Second Calcutta Division, Public Works Department, was born in Bengal in the year 1863, and educated at the Metropolitan Institution ,Calcutta. He entered the Seebpore Engineering College where he took the degree of Bachelor of Engineering. He was appointed to the public service in the year 1889 as an Assistant Engineer and served in the Behar and Orissa Districts for some 15 years. In

Rai Saheb B. M. MITRA.

1902 he obtained the substantive appointment of Executive Engineer while at Orissa. In March 1905 he was transferred to Calcutta and posted as Executive Engineer to the Northern Drainage and Embankment Division, Public Works Department.

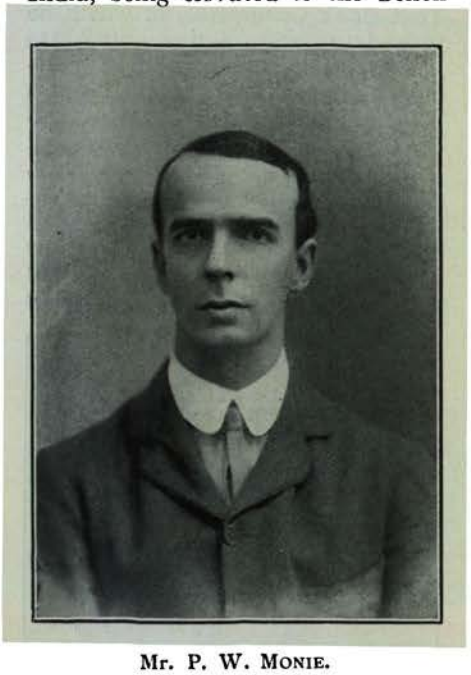
The Hon'ble Mr. Justice SARADA CHARAN MITRA, Judge of the High Court of Judicature at Fort William in Bengal, is one of those able Indians who have worked their way to absolutely front rank by dint of hard work superadded to great natural talents. He was born at Panisthola in Bengal in the year 1848, his father being Eshan Chandra Mitra, a banian of Calcutta, and the family one of very good social standing in Bengal. Mr. Mitra had the misfortune to lose both parents while still quite young. He was admitted to the Colootollah Branch School, now known as the Hare School, in 1857. In the year 1865, he was the first on the list of successful candidates for the Entrance Examination at the Calcutta University, after which he continued his studies at the Presidency College, Calcutta. Mr. Mitra was first on the list of successful candidates at the First Examination in Arts in the year 1867, and the Duff scholar in Mathematics. He missed the Duff Scholarship in English by reason of illness, his indisposition preventing him from appearing in one of the papers set for that subject. In 1868, he married, according to the then prevailing usage of early marriage in Bengal, Srimoti Krishna Mohini, daughter of Sreenath Ghose and grand-daughter of Raja Sir Radha Kant Deb, Bahadur. Sreenath Ghose belonged to a family of high class Kulin Kayasthas. In 1870, Mr. Mitra was again first on the list of successful candidates in the examination for the Degree of Bachelor of Arts and the Eshan scholarship. Within a month after appearing at the B. A. Examination he passed third on the list for his Degree of Master of Arts. In 1871 he carried off the Premchand Roychand Scholarship, being the only scholar who succeeded in getting that scholarship within five years of passing the Entrance Examination, and entered Government service as Lecturer in the English Language at the Presidency College. In 1873, Mr. Mitra, having obtained his Degree as Bachelor of Law, was enrolled a Vakeel of the High Court. Mr. Mitra has been always an advanced thinker among the Hindu community, and at this period of his life he joined Pundit Eshara Chandra Vidyasagore in the work of promoting sanction for the re-marriage of widows, and became the Active Secretary of the Widow Re-marriage Society. Lastly, by the marriage of one of his sons he first showed the way to the fusion of the sub-castes of the community to which he belonged. Mr. Mitra's practice in the High Court was very successful. Possessing a great knowledge of the principles and practice of the law and sound judgment, and a capacity for the correlation of facts and ideas, combined with great rectitude of purpose and honesty in action, he quickly made his mark. In 1884 he was nominated a member of the Central Text Book Committee, of which he proved a very active, moderate and judicious member, much respected by his colleagues for his able opinions on literature of this class. In 1885 he was nominated a Fellow of the Calcutta University, in which capacity he was of great service on the Sanscrit Board and in the Law Faculty. At this time he established the first Hindu Boarding Institution, named the



The Hon. Mr. Justice S. C. MITRA.

Calcutta Aryan Institution. In 1895 he was appointed Tagore Law Lecturer and published a work dealing with the Land Law of Bengal, a very difficult work which he undertook at the special request of Sir Comer Petheram, the late Chief Justice. In 1902, Mr. Mitra obtained the distinction of election as the President of the Law Faculty of the Calcutta University, and in 1902 and again in 1903 he officiated as Judge of the High Court at Calcutta. At this period he was appointed by the Bengal Government to report on the Budh-Gya dispute, a high compliment and an expression of the confidence of the Government. When Mr. Mitra's report issued, it was received with satisfaction and regarded

by Sir J. Bourdillon as "a monument of erudition, moderation, impartiality and carefulness." In the year 1904 Mr. Mitra reached the summit of legal ambition in India, being elevated to the Bench



Mr. P. W. MONIE.

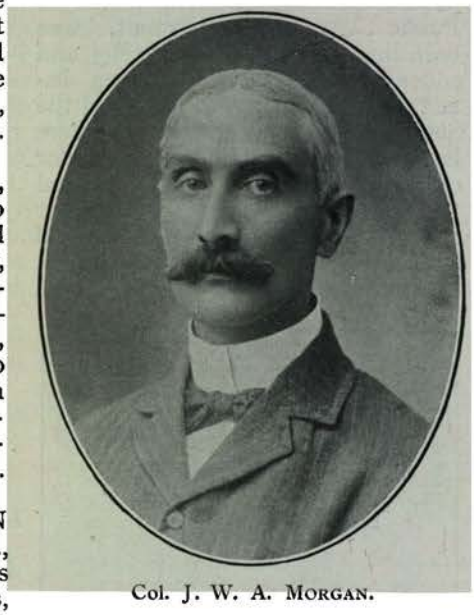
of the Calcutta High Court in place of Sir Gooroo Das Banerjee, retired. There is no doubt that the appointment was a wise one and gave satisfaction to all alike, whether Europeans or Indians. A good test of such an appointment is newspaper opinion, and all, from the leading English to the organs of Native opinion, concurred in viewing the appointment favourably. The Hon'ble Mr. Justice Mitra has been an active contributor to the literature of the day, and has published a whole series of articles in Bengali and English periodicals on philological, historical, biographical, sociological, juridical and agricultural subjects. He published a Note on a Uniform Script for India, which created an active and profound interest all over India. He has also made a mark with Notes on the development of the Bengal School of Hindu Law, on University of Reform, on Primary Education, on Female Education, on Usury Laws, and on the Appointment of Examiners in the Calcutta University. He has found time to edit an annotated edition of the ancient Bengali works and of Vidyapati's Padavali, and also edited the Kayastha Karika (Genealogical Tables) of all Kayastha families of one section of Bengal. His valuable work on the Land Law of Bengal has already been referred to above. He has always taken an active interest in the education of children and has published and written some school books on English Grammar, Sanscrit and Bengali literature.

Mr. PETER WILLIAM MONIE, B.A. (Oxon.), Under-Secretary to Government, Political, Judicial and Legislative Departments, Bombay, was born at Rothesay, Bute, Scotland, in 1877, and educated at Glasgow University, and Balliol College, Oxford. He came to India in 1900 and served as Assistant Collector in the districts of Ahmednagar, Khandesh, Ratnagiri, Satara and Sholapur; and as Assistant Judge at Satara.

Mr. WILIAM HARRISON MORELAND, I.C.S., B.A., LL.B., C.I.E., Director of Land Records and Agriculture, United Provinces, was born at Belfast, Ireland, in July

Mr. W. H. MORELAND.

1868. Son of the late W. H. Moreland, Esq., of Belfast, Flax Spinner. Educated at Clifton and Trinity College, Cambridge. Having successfully competed at the competitive examination for the Indian Civil Service, Mr. Moreland joined the service on 31st August 1888, and arrived in India in November 1889. After passing through the lower grades of the service and officiating for some months as Under-Secretary to Government, he was appointed to the Unao Settlement which he completed while holding charge of the district. In 1897 he took furlough for a year, and rejoining in 1898, was appointed Officiating Director of Land Records and Agriculture, obtaining this as his substantive appointment in the following year. He has performed the duties of this post ever since, except for a short period of special service in Australia. In the year 1905, he was invested with the Insignia of a Companion of the Order of the Indian Empire. He is the author of The Final Settlement Report of the Unao District, Report on the Australian Method of Testing and Improving Wheat (Agricultural Ledger No. 2 of 1901); An account of the attempts which have been made to utilize Usar Land in the N.-W. Provinces and Oudh (Agricultural Ledger No. 13 of 1901); The Agriculture of the United Provinces; An introduction for the use of Landholders and Officials



Col. J. W. A. MORGAN.

Col. JOHN WILLIAM AKERMAN MORGAN, Inspector-General of the Indian Civil Veterinary Department, is the eldest son of

the late Captain Edward Morgan, R.H.A. He was born in 1856, educated at Bath and took his diploma at the Royal Veterinary College, London, in 1877. Joining the Home Service he was attached to the Privy Council office for a year and then served in both the Zulu and Afghan Wars. Coming out to India he was appointed Superintendent, Horse Breeding Operations, Bombay, in 1892; and Inspector-General, Civil Veterinary Department, Simla, in 1901. Married September 20th, 1899, Constance, daughter of the late John Foster, Esq., Thorne Hall, Yorkshire. He is a very keen sportsman and has shot nearly every variety of big game to be found in India, Burma and the Himalayas. He has also owned and raced some of the best Arabs and country-breds in India; amongst the latter that very high class mare "Evensong," which he bred himself.

The Hon'ble Dr. ASUTOSH MOOKERJEE, LL.D. This distinguished Judge of the High Court of Fort William, and Vice-Chancellor of the University of Calcutta, is a member of a Brahmin family settled from time immemorial in Bengal. The family was originally settled in Jeerut Balagarh, a village on the Hooghly, whence Dr. Ganga Prasad Mookerjee came to Calcutta in the fifties to pursue his studies in medicine. He graduated at the Calcutta Medical College and thereafter settled down as a medical practitioner in Bhowanipore, a southern suburb of Calcutta. Dr. Mookerjee was a medical man of distinction in his day. His son, Mr. Justice Mookerjee, was born at Bhowanipur in June 1864. At that time Bhowanipur was the centre of the law courts which were held in the present Military Hospital buildings, and the young Mookerjee grew up in an atmosphere which may be described as a legal one. To his father young Mookerjee owed the foundation of his great store of learning. The undoubted disadvantages of an Indian education, which places too much reliance on mere book learning, were counteracted in Mr. Justice Mookerjee's case by the care which his father took of his mind in his early years, instilling into him from his own wide experience those principles of independent thought that have made him the origiral thinker that he is to-day, and has been throughout his life. The same care followed Mr. Mookerjee all through his student life. Even while he was at school, the elder Dr. Mookerjee aided his studies with his own ripe wisdom. The consequence was that the future High Court Judge acquired knowledge far in advance of that usually imparted at school and college. At the age of twenty, Mr. Mookerjee attained his degree of Bachelor of Arts and, continuing his studies in the same earnest spirit, in the following year took his Master's degree in mathematics, and the next year was awarded the Premchand Roychand studentship of Rs. 8,000. In these years Mr. Mookerjee showed a brilliant capacity for the higher mathematics, and with a mind so stored there were many professions open to the young man. His efforts in these purely mental labours were more than local, and before he had attained his majority, his work in pure and mixed mathematics had reached the learned societies of Europe. His solutions of many abstruse mathematical problems have been incorporated in standard works together with the best work of European scholars. But finally the law claimed the young scholar. He joined the City College for the purpose of studying law. Though to this subject he brought his usual energy, at first the result was not commensurate with his success in the calmer studies of mathematics. He carried off the Tagore Law Gold Medals on three separate occasions, but it must be acknowledged that at first his progress in the law was not as meteoric as his former career had been. He passed the examination of Bachelor of Law without much distinction, but the preparation of study bore fruit soon after, and his appearance at the Honours Examination of law five years later was the occasion of a masterly exhibition of acquirements which secured him the title of Doctor of Law. At this period Mr. Mookerjee was in his thirtieth year. The next ten years, for he is now scarcely turned forty, were a period of great development. He commenced to practise at the Calcutta Bar, and as a junior he was soon found to be an invaluable aid to leading counsel, for the thorough and painstaking habits inculcated in him by his wise father made him the master of every case submitted to him. As in course of time he obtained opportunities of exhibiting his powers before the Bench, the issue was not long left in doubt, and it was found that he was able to hold his own against the ablest legal talent of the Calcutta Bar. In seven years he attained a leading position. Mr. Mookerjee gained all the honours open to him as practising counsel, and in fifteen years after taking the gown he was appointed a Judge of the High Court which his forensic abilities had so adorned. In this short sketch it is not possible to do full justice to the many honours which the Hon'ble Mr. Justice Mookerjee has obtained in his not very lenghty life. Long years are left in which to add to them, for the learned Judge is still a student. He is a Fellow of the Calcutta University, appointed by Lord Lansdowne in 1889, and as a Member of the Faculty of Arts has been one of its representatives on the Syndicate of the same University for fifteen years. He has been nominated by the University on two occasions as its representative on the Bengal Legislative Council, and a third time by the Calcutta Municipality. In 1904, he was elected to the Supreme Council by the non-official Members of the Bengal Legislative Council. As a legislator, Dr. Mookerjee is not in sympathy with the agitating cliques among his countrymen. His work for his country is of a more solid character than the airing of rhetoric, popular among public men of far inferior attainments to his; but as a champion of right in legislation Dr. Mookerjee's services have been of a solid order and of infinite value to the material prospects of his country. He is a true patriot, working for the advancement of his community under the existing order of Government, which he recognises as the best attainable till the country is really educated enough for a further share of freedom. As a profound and honest lawyer, he has placed his knowledge at the service of the public, and the result is shown in many an Act which would have been less perfect but for the keen skill in law and practi-

cal knowledge of the country which he has exhibited. With all this enlightened and comprehensive grasp of things as they are, Dr. Mookerjee is a typical Hindoo. He is no denationalised mixture of East and West, but he has recognised the possibility of being true to his country and traditions, while standing forth with the leaders of thought either in Europe or Asia. He has never travelled in Europe, but is a brilliant exponent of Western knowledge, and at the same time is versed in the ancient lore of India. Hindoo metaphysics and Sanskrit literature are as familiar with him as the latest results of European research. Dr. Mookerjee has led too busy a life to have published much, but the output of his mind may be looked for in the future, of a certainty. Already he has made a commencement in a book on that abstruse and difficult subject, the "Law of Perpetuities" and his work on "Conic Sections" is now a text book.

Mr. NILAMBARA MUKARJI, Vice-Chairman of the Corporation of Calcutta, is the son of the late Pundit Devendra Nath Mukarji, a man of considerable literary ability. He was born near Calcutta, December 3rd, 1842, and was educated at the Sanskrit College and the Presidency College of that city, taking a first place in Sanskrit. He continued his studies at the Calcutta University, taking the degree of M.A. in 1865, and graduated B. L. in 1866. He was enrolled a Vakil (pleader) of the High Court of Calcutta, and, after a short practice there, transferred his practice to the High Court at Lahore. In 1869, he enlisted in the service of His Highness the Maharaja of Kashmir and became Chief Judge of the Kashmir State. By gradual promotion he was made His Highness' Finance Minister, receiving a very large remuneration for his valuable services. In 1886, he was relieved from his duties. In 1896, he was appointed Vice-Chairman of the Corporation of Calcutta.

Lieut.-Col. R. D. MURRAY, M.B., I.M.S., Inspector-General of Civil Hospitals, was born in Ross-shire, Scotland, on the 30th August 1851. He was educated at the Aberdeen and Edinburgh Universities, taking his M. B. degree with honours at the latter. He joined the Indian Medical Service in 1875 and remained in military employ to the 31st March 1876. On the 1st April 1876 he was appointed Civil Surgeon of Chittagong, and held charge till 1880. He then served as Civil Surgeon of Rajshahi and Bhagalpur, and in December of 1882, he was appointed to Calcutta, where he acted as Resident Surgeon of the Medical College Hospital for five months. He next acted in turn as Civil Surgeon of Mozufferpur, Burdwan, Jessore and Nadiya, and returned to Calcutta in 1884. In 1886, his services were placed at

the disposal of the Military Department for employment in Burma. For his good services there he was mentioned in Despatches, and received the Burma Medal with clasp. Next year he was promoted to Surgeon-Major, and in 1887 he returned to civil employ under the Government of Bengal. He was appointed First Resident Surgeon at the Presidency General Hospital and Superintendent of the Presidency Asylums. In 1888 he served as Civil Surgeon of Champaran, and in 1890, as Civil Surgeon of Gaya. In 1892, he was appointed Civil Surgeon and Inspector of Factories at Howrah. In 1895, he officiated as Professor of Surgery at the Medical College and *ex-officio* 1st Surgeon to the College Hospital, being confirmed in that appointment on the 19th August 1898. He was promoted to the rank of Lieutenant-Colonel on the 31st March 1895, and in 1900, he was selected for promotion to the administrative grade. On the 1st April 1904, Lieutenant-Colonel Murray's services were placed at the disposal of the Government of India, Home Department. He served as Inspector-General of Civil Hospitals for the United Provinces, and also as Principal Medical Officer of the Lahore Division. On January 17th, 1905, he was appointed to officiate as Inspector-General of Civil Hospitals, Bengal, and on 29th March, was appointed Inspector-General of Civil Hospitals in the United Provinces of Agra and Oudh.

Lieutenant-Colonel Murray has contributed many valuable articles to the Medical Journals, "Scarlet Fever in India," "Fifteen Months' Surgical Practice at the Pilgrim Hospital, Gaya," "Scrotal Elephantiasis," a new operation "Colopexy" for Prolapsus Ani, and papers on malarial fever, figure most prominently among these contributions. He has had a wide experience of medical work in India from many points of view, and he combines with his knowledge a fine capacity for organization.

Mr. HENRY RIVERS NEVILL, I.C.S., B.A. (Oxon), M.R.A.S., M.A.S.B., F.S.S. and F.R.G.S., Joint Magistrate on special duty, was born in 1876 at Norwich, England, and is a younger son of the late Ven. H. R. Nevill, Archdeacon of Norfolk. Mr. Nevill was educated at Charterhouse, and obtained an open scholarship at Oriel College at Oxford, where he took a second class in classical Moderations in the year 1896. Having passed the competitive examination of the Indian Civil Service in 1898, he arrived in India the following year. For the next two years he performed the duties of Assistant Collector and Magistrate at Bareilly, Almora, Farrukhabad, Fyzabad, and Naini Tal. In 1901 he was placed on special duty and entrusted with the revision of the Gazetteer of the United Provinces, and from 1905 to 1906 he held in addition charge of the current duties

of the office of the Superintendent, Imperial Gazetteer, United Provinces. Mr. Nevill is the author of the District Gazetteers of Bulandshahr, Muzaffarnagar, Meerut, Agra, Fatehpur, Budaun, Basti, Naini

Mr. HENRY RIVERS NEVILL.

Tal, Lucknow, Unao, Rai Bareli, Hardoi, Sitapur, Kheri, Fyzabad, Gonda, Bahraich, Sultanpur, Partabgarh, and Bara Banki. He is an Associate of the Institute of Naval Architects, London, and a Lieutenant in the United Provinces Light Horse.

Mr. EUSTACE FERRERS NICHOLSON (*Lieut.-Col., Bombay Volunteer Rifles*), Government Solicitor and Public Prosecutor, Bombay. Mr. Nicholson is the youngest son of the late Major William Nicholson of Thelwall (Cheshire) and Bath, by his wife Constance Ferrers, daughter of George Pickering of Chester, and was born at Southport, Lancashire, in the year 1858. He was educated at Stonyhurst College, Lancashire, and subsequently articled at Warrington to his uncle, the late Mr. James Nicholson of Thelwall Hall, in 1875, after he had matriculated at the London University. After serving his articles he joined the well-known firm of Gregory, Rowcliffes and Rawle, Solicitors of No. 1, Bedford Row, London, in order to prepare himself for the final examination previous to his admission as a Solicitor. In 1879 he was taken on the staff of Messrs. Gregory, Rowcliffes and Rawle in the Common Law (Agency Side) Department of that firm, but after being admitted as a Solicitor in 1880, he decided to proceed to India, and, coming to Bombay, he joined the firm of Hearn, Cleveland and Little, Solicitors, Mr. Hearn at that time being Solicitor to the Bombay Government and Public Prosecutor. Mr. Hearn resigned in 1882 and Mr. Cleveland was appointed to fill the official vacancy, and the firm changed its style to Cleveland, Little and Nicholson. Mr. Cleveland having resigned in 1884, Mr. Little received the Government appointment, and Mr. Little and Mr. Nicholson shortly afterwards allied themselves with the firm of Messrs. Smith and Frere, Solicitors of Bombay, the style of the new firm becoming Little, Smith, Frere and Nicholson. Mr. Frere subsequently retired from the firm which, adopting its present style of Little & Co., was afterwards joined by Mr. J. C. G. Bowen and Mr. E. C. B. Acworth, and Mr. Little having resigned his Government appointment in 1898 and retired from Indian practice, Mr. Nicholson, who had acted as Solicitor to Government and Public Prosecutor in 1894 and again in 1897, and who had been specially appointed as Public Prosecutor in certain important Poona cases, was, in 1898, confirmed in the Government appointment which he now holds. Mr. Nicholson is a prominent Volunteer. He joined the Bombay Volunteer Rifles in 1885 as an Officer and, having passed through the commissioned ranks, became Lieutenant-Colonel and Commandant in 1899. He has the Volunteer Officers' Decoration and was appointed Honorary A.D.C. on the Personal Staff of Lord Northcote, Governor of Bombay, with whom he attended at the Delhi Durbar. He is well known in Bombay athletic circles, having for many years played cricket for the Bombay Gymkhana, and is the winner of several challenge cups for lawn tennis. He is an enthusiastic golfer, and was Captain of the Royal Western India Golf Club for 1905. On the distaff side Mr. Nicholson is descended from the illustrious family of Ferrers of Baddesley, Clinton, Warwickshire, his grandmother having been Magdalen, daughter of Edward Ferrers, Esquire, eleventh lord (of the name) of that ancient manor. He was married in 1885 to Dora Maria

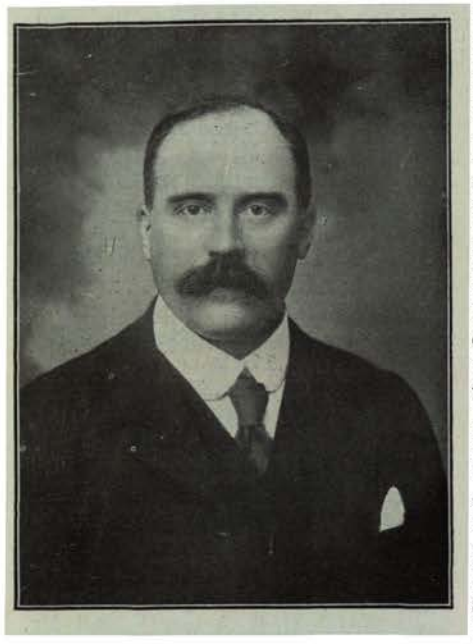
Maud, only daughter of the late Henry Gamble of Bombay and has two sons and two daughters.

Mr. C. E. A. W. OLDHAM, I.C.S., Director of Agriculture, Bengal, was born in Galway in 1869, and was educated in Galway, London, and Balliol College, Oxford. He joined the service in October, 1890, and served as an Assistant Magistrate and Collector, acting as Magistrate-Collector in 1892, 1894 and 1895 for short periods. In 1895 he was appointed Under-Secretary to Government, officiating as Secretary to Government in the Financial and Municipal Departments in 1897. Omitting short terms of special duty, Mr. Oldham next served as a District Officer, holding charge of the Gaya District for five years and of Monghyr for nearly two years. He was placed on special duty in connection with the Agricultural Department in September, 1905. For his services in connection with plague in Gaya he was awarded the Kaisar-i-Hind medal of the first class in 1902.

Col. HENRY DACRES OLIVIER, R.E., A.M.INST.C.E., late Agent, Bombay, Baroda and Central India Railway, is the son of Rev. Henry Olivier, and was born at Potterne Manor House, Wiltshire, in 1850. He received his education at Haileybury and Cheltenham College, after which he entered the Royal Military Academy in 1869, and two years later received his Commission in the Royal Engineers. He came out to India in 1874, joining the Public Works Department in 1875. From 1878 to 1880 he was employed in Baluchistan, where he took part in both the Afghan campaigns, being attached to Sir Donald Stewart's staff. He was subsequently appointed Executive Engineer and Deputy Consulting Engineer for Railways. In 1885 he was engaged on the Soudan Railways, and in 1887 appointed Under-Secretary to Government in the Public Works Department. In 1894 he was appointed Agent to the Bombay, Baroda and Central India Railway Co. He retired from Government employment in 1904. Col.

Olivier takes a keen interest in Volunteering, and was Commandant of the B-B. & C. I. Railway Volunteers, and has also been on occasions a member of the Bombay Improvement Trust, Bombay Chamber of Commerce, and Bombay Municipal Corporation. He still keeps up an active interest in games and athletic sports and devotes much of his leave to travel and sport.

Mr. HUGH WILLIAM ORANGE, C.I.E., Director-General of Education in India, was born in Berkshire, England, in 1866. Son of Dr. W. Orange, C.B., of Broadmoor. He was educated at Winchester College, and New College, Oxford. Was Junior Examiner to the Board of Education, London, from 1893 to 1902, and while holding that position was Private Secretary, from 1898 to 1902, to Sir George Kekewich, K.C.B., Permanent Secretary of the Board of Education, London; a chief whose term of office was marked by many far-reaching changes, and who was pre-eminent for his public services in the cause of education. Mr. Orange received his present appointment, March 6th, 1902. In January 1906 he received the decoration of C.I.E.



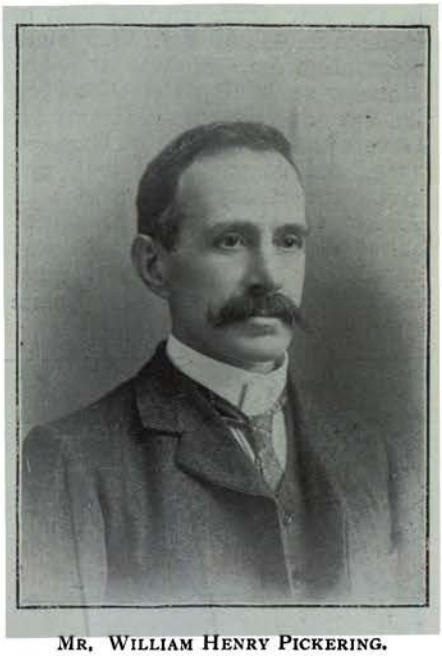
The late Mr. MOUNG HLA OUNG, F.S.A.A., F.S.S., Comptroller, India Treasuries and ex-officio Examiner of Funds in India, was born in 1853 at Akyab. Educated at Akyab Government School, Chittagong College and Bishop's College, Calcutta. He passed as a first class Advocate, Burma, and was appointed Government Translator, Burma Chief Court, in 1872, and Personal Interpreter to the Chief Commissioner of Burma in 1873. In the year 1875, he was appointed Assistant Accountant-General, Madras, and held several similar appointments in Calcutta, Madras and Burma, till in 1892 he was posted Examiner of Local Accounts, Bengal, and successively Deputy Accountant-General, Allahabad and Punjab; Senior Assistant Comptroller-General, Calcutta, 1893; Deputy Accountant-General, Burma, in 1899, and in 1902 Deputy Auditor-General, Calcutta. In the same year he was appointed Comptroller, India Treasuries, which post he held, with one break when he officiated as Accountant-General, Madras, till his death. Besides his official life, Mr. Oung interested himself in public affairs. He took a prominent part in founding the Burma Leper Asylum, was Hony. Treasurer of the Dufferin Hospital, Rangoon, Member of the Burma Text Book Committee and of the Educational Syndicate, Burma, Pali Examiner of Buddhist priests, and Examiner in Pali and Burmese of the Calcutta University. He was attached to the Burmese Embassy to Lord Northbrook in connection with Karenni affairs. Took an active part in founding many Burmese educational establishments. He saw political service under Sir Ashley Eden and also in the troubled times preceding and following the last Burmese War.

Mr. JOHN ALEXANDER OWENS, Presidency Postmaster, Calcutta, was born in India in the year 1851. He left the country as a child and received his earlier education in England. He returned

to India some years later and completed his course of study in this country. On their completion, he joined the Postal Department of the Government of India as a junior in 1868. Five years later, in 1873, he became a Divisional Superintendent of Post Offices, and for nineteen years served in the various grades of Superintendents in different divisions in the Bengal and Behar Postal Circles, and also as Personal Assistant to the Postmaster-General, Bengal. In 1892, Mr. Owens was appointed Presidency Postmaster at Bombay, after he had officiated as Assistant Director-General, and Deputy Postmaster-General on four occasions. In 1893, he was transferred to Calcutta as Presidency Postmaster, and has since held this substantive appointment at the General Post Office, Calcutta. The mercantile and general public of the metropolis of India owe to Mr. Owens' initiative, the introduction of the local hourly delivery system, by which collections and deliveries of mails are made hourly between 6 A.M. and 9 P.M. daily, except on Sundays, he having introduced this valuable reform in the year 1897. During Mr. Owens' lengthy service he has at various times officiated as Postmaster-General of the Bengal, Madras, and the United Provinces of Agra and Oudh Postal Circles, and has seen many changes and innovations for the better serving of the public in Postal matters successfully effected.

Sir ALEXANDER PEDLER, KT., C.I.E., F.R.S., late Director of Public Instruction, Bengal, was born on 21st May 1849. He was educated at the City of London School and the Royal College of Science. He joined the Educational Department in 1873, and was appointed Professor of Chemistry at the Presidency College, Calcutta. In 1875, he officiated as Meteorological Reporter to the Government of Bengal in addition to his own duties. He held this appointment till 1890, officiating on various occasions as Meteorological Reporter, and Principal of the Presidency College, Calcutta. He held the joint appointments of Professor of Chemistry and Meteorological Reporter from 1890 to 1895, when, after returning from furlough, he in 1896, was appointed Principal of the Presi-

dency College. He officiated as Inspector of Schools on several occasions, and on January 3rd, 1899, was appointed Director of Public Instruction, Bengal. He was a member of the Educational Conference (Imperial) in 1901 and was on special duty with the University Commission from 9th February 1902 to the 9th June of the same year. In 1904 he served on the Committee appointed to inquire into the financial condition of European schools.



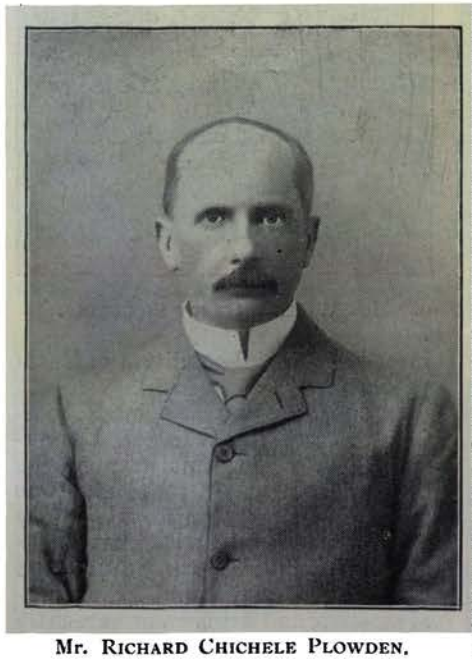
MR. WILLIAM HENRY PICKERING.

In 1904, he was appointed Vice-Chancellor of the Calcutta University. Mr. Pedler was granted the C.I.E. decoration in 1901, and was made a Fellow of the Royal Society in 1892. He has made many valuable contributions to journals on Chemical, Scientific and Educational matters, and has been prominently connected with the Asiatic Society of Bengal. He has been a member of three Government expeditions sent to observe total eclipses of the sun in Sicily, at the Nicobar Islands, and Viziadrug.

In January 1906, he was knighted for his long services in the Education Department.

Mr. WILLIAM HENRY PICKERING, the Chief Inspector of Mines in India, is the second son of the late Mr. James Pickering who was a well-known colliery agent in England. Mr. W. H. Pickering was born on October 1st, 1858, at Orrell, in Lancashire, and was educated at Upholland Grammar School and St. Peter's School, York. He

began his mining career in the year 1875, when he was articled as an apprentice to Mr. Watkin, of Pemberton Collieries, Lancashire, and after experience in Lancashire and the North of England, he obtained a first class certificate of competency in the year 1881, entitling him to manage mines under the Coal Mines Regulation Act. He was Assistant Manager at Rainford Collieries when he sat at the examination for Government Inspectors of Mines in 1883, and being placed first, was given the vacant appointment as Assistant Inspector in Staffordshire district. In 1901, he was appointed Chief Inspector of Mines for the Yorkshire and Lincolnshire

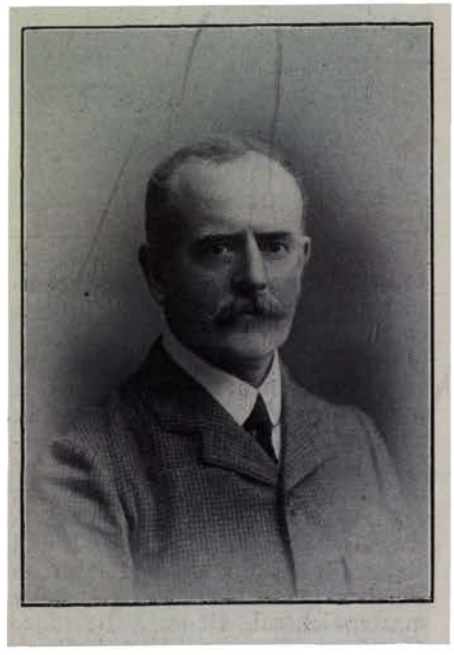


Mr. RICHARD CHICHELE PLOWDEN.

district, the largest and most important of the inspection divisions of England. Three years later, his services were lent by the Imperial Government to the Government of India, and he was appointed Chief Inspector of Mines in India, and on the 19th December, 1904, he assumed office as the head of the Mines Department, an important branch of the Department of Commerce and Industry. Mr. Pickering is a member of the Institute of Mining, Mechanical and Civil Engineers, England, and has contributed papers to the publications from time to time, and was a member of the Council before he came to India. He is a very firm believer in the power of such Institutes to advance the cause of science, and was the originator of the proposal to found the Mining and Geological Institute of India, which was launched under most favourable auspices on the 16th January 1906. He is the Honorary Secretary of that Institute of which His Excellency the Viceroy is Patron, which already has the names of nearly all the leading mining engineers and geologists of India on its list of members.

Mr. RICHARD CHICHELE PLOWDEN, District Superintendent of Police, Simla, was born in the Mutiny year at Nagpore. He is the youngest son of the late Mr. George Augustus Chichele Plowden, H.E.I.C.S., Chief Commissioner of the Central Provinces. Mr. Plowden received his education at Cheltenham College and at King's College, London. Returning to India in October of 1875, Mr. Plowden entered the Punjab Police Service in 1878. Fortune seems to have smiled upon him, because within six months from the time he joined the force, he was called to active service, having been made Commandant of the Road Police, Kohat District, during the Afghan War. As Transport Officer he served in the Khyber, Cabul, Candahar, Peshin, from April 1880 to February 1882, returning to the Punjab in the same year. Mr. Plowden in 1885 served as Assistant District Superintendent of Police at Quetta and in Baluchistan, where he also officiated as Assistant Political Agent of the Bolan Pass. He was made a Magistrate of the 1st Class and a Justice of the Peace. Returning to the Punjab in 1889, Mr. Plowden was put in charge of the Police Training School when it was in its infancy in 1892. The districts of Dera Ghazi Khan and Peshawar, which abound in dangerous fanatics and criminals of a very bad type, were his next spheres of activity. These appointments show the high estimation in which Mr. Plowden was held as a practical Police Officer. In 1896 he invented the handcuff which is now in general use in many of the Punjab Districts. For a period of two years Mr. Plowden was in charge of the Criminal Identification Bureau at Phillour, and also in charge of the School, where he codified the orders and introduced a new and more practical system of instruction. Mr. Plowden was appointed District Superintendent of Police, Simla, on February 29th, 1904, and was transferred to Delhi on its becoming vacant in August 1905.

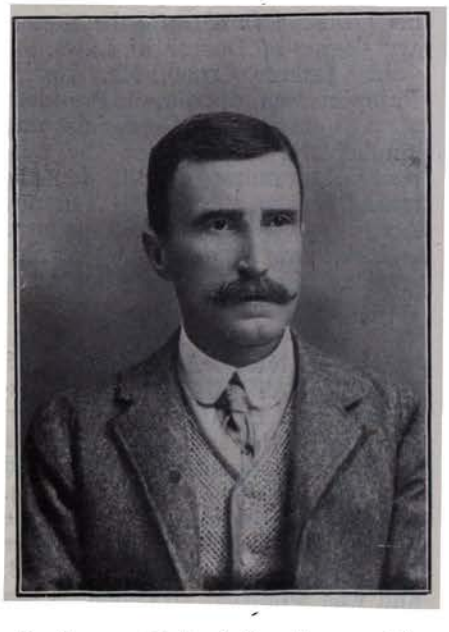
Colonel GEOFFREY MOREHEAD PORTER, R.E., Mint Master, Calcutta, was born at Madras in the year 1854 and educated at Cheltenham College and the Royal Military Academy, Woolwich. He joined the Royal Engineers in September 1873 and about three years later proceeded



to India, arriving here on the 31st January 1877. After being attached for a short time to the Bengal Sappers and Miners at Roorkee, he entered the Military Works Branch. In this department Colonel Porter served in stations scattered over a very wide stretch of Northern India from Calcutta to Peshawar. During this period of his service he was engaged on barrack and fortification work and was attached to the Kabul Field Force in the famous campaign of 1879. After serving a few years in Simla in the office of the Inspector-General of Military Works, he was in 1889, on return from a course at Chatham,

posted for special duty in connection with the Government Dockyard to Bombay. He was appointed to officiate as Mint Master in 1897. The officiating appointment in Bombay was converted into a substantive one in 1902. He was transferred to Calcutta as senior Mint Master in 1904 and now holds this post. Colonel Porter has seen the rise of works of considerable importance during his Indian service. In 1878 he was engaged in the laying out and construction of the Fort at Fulta on the Hooghly. Between 1889 and 1893, he was engaged in designing and constructing the wet basin in the Government Dockyard, Bombay, and in carrying out the work of deepening and lengthening the Duncan dry dock. In the year 1905, he was sent on deputation to the United States with a view to studying the methods employed in the U. S. A. Mints. The Government has recently found full employment for Colonel Porter's abilities in connection with the new bronze and nickel coinage, a bill for the introduction of which has recently become law, and in the introduction of electricity into the Calcutta Mint.

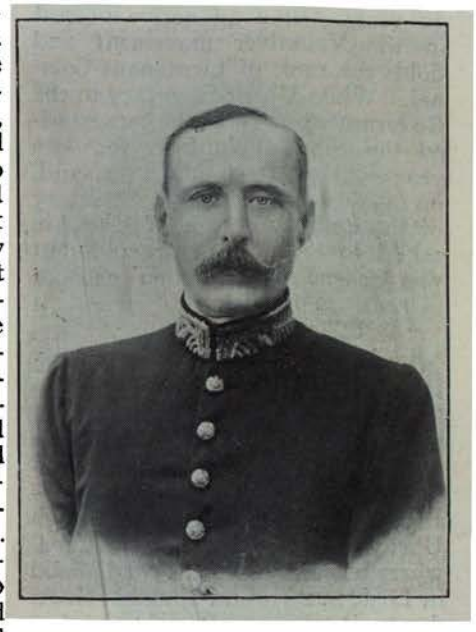
The Hon'ble Mr. LESLIE ALEXANDER SELIM PORTER, M.A., LL.D., I.C.S., Commissioner of



Lucknow, United Provinces. The Hon'ble Mr. Porter was born in the year 1854 at Damascus. He was educated at the Royal Academical Institution and Queen's College, Belfast. He passed the competitive examination and was appointed to the Indian Civil Service in 1874, and arrived in India in the year 1876. His first service was in the then North-West Provinces, where he held, in succession, the posts of Assistant Collector and Magistrate, Assistant Secretary to Government, Joint Magistrate, and Settlement Officer. In the year 1891 he officiated as Deputy Secretary and as Secretary to the Government of India in the Legislative Department. In November 1891 he was appointed Secretary to the Deccan Agriculturists' Relief Commission. In September 1892 he became a Deputy Commissioner, and in February 1894 a Magistrate and Collector. He acted as Commissioner in 1898, and was made substantive as Commissioner in 1901. In 1903, Mr. Porter was appointed as Acting Chief Secretary to the Government of the United Provinces of Agra and Oudh, and became a Member of the Viceroy's Legislative Council in October 1904. He is also a Member of the Indian Peoples' Famine Trust. As Commissioner of Lucknow he is *ex-officio* one of the Governors of the Martinière College, President of the Managing Committee of the Canning College, and of the Colvin Talukdars' School in that city.

Mr. NEVILLE GEORGE PRIESTLEY (*Lieutenant-Colonel, Simla Volunteer Rifles*), Agent, South Indian Railway, was born in March, 1861, and was intended for the medical profession; but the death of his father, who was in the service of the Indian Government, compelled him to abandon the idea of studying medicine and to take service in the Traffic Department of State Railways. He began his career on railways in December, 1879, and in October, 1884, was appointed Division Superintendent on the Rajputana-Malwa State Railway, and continued in that position, varied with periods of duty at head-quarters, till December, 1897, when he was selected by the Southern Mahratta Railway Company for the position of Traffic Manager.

In September, 1900, he was called up to Simla to fill the position of Under-Secretary to the Government



of India in the Railway Department.

During the winter of 1902-03, Mr. Priestley was associated with Mr. Thos. Robertson, C.V.O., the special Railway Commissioner who was brought out from England to report on the working of railways in India, and assisted him in procuring the information for, and in preparing, his report; at the end of which duty in April 1903, he took his first long leave to Europe.

In the summer of 1903, when on leave, Mr. Priestley was deputed by the Secretary of State to report on the organisation and working of Railways in America. His report is well known, and it is not necessary to refer to it here further than to say, that it showed Mr. Priestley to be an official who is intimate with the practical working of railways, and who held broad and progressive views. Subsequently, when Mr. Robertson's report was under consideration by the Secretary of State for India, Mr. Priestley was placed on special duty at the India Office in connection with it, and on the formation of the Railway Board he was, on February 8th, 1905, appointed its first Secretary. In the interval between his return from furlough in October 1904, until the creation of the Railway Board, Mr. Priestley filled

the office of Traffic Superintendent, E. B. S. Railway.

In addition to his arduous railway duties, Mr. Priestley has, for some 30 years, taken an active interest in the Volunteer movement and holds the rank of Lieutenant-Colonel. While Under-Secretary to the Government of India, he commanded the Simla Volunteers for two years during 1901 and 1902, and, on his return to Simla as Secretary of the Railway Board, he was again asked to take the command but was obliged to refuse on account of pressure of business.

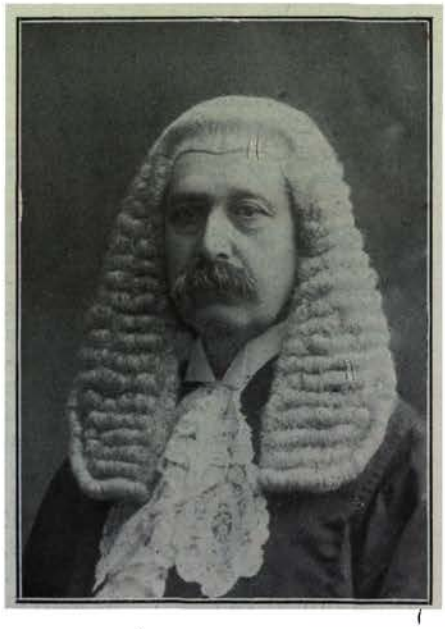
The Hon'ble Mr. JUSTICE RAMPINI, M.A., LL.D., was born in Edinburgh on the 23rd August 1844. He was educated at the Edinburgh Academy and Edinburgh Institution during 1854—1859. He studied at the Edinburgh University during 1859—1864, where he carried off the Gold Medal in Logic in 1861 and took his M. A. degree in 1864.

In the same year, he passed first for the Indian Civil Service and came out to India and joined the Indian Civil Service on the 28th November 1864. In India, he took a degree of honour in Bengali, and obtained high proficiency certificates in Urdu, Bengali, Hindi and Uriya at the College of Fort William.

In 1865, he was appointed a Magistrate in Bengal, and in the same year, on the outbreak of the great Orissa famine, he was sent to Orissa on famine relief duty. He was appointed famine relief manager for Balasore, and remained on this duty for two years. In 1866, while travelling at night on famine relief work, he was attacked by dacoits, shot at and robbed. He rendered excellent service during the famine and at the conclusion of the famine relief operations, he was, in recognition of his valuable services, exempted from examination by the Higher Standard.

In 1873, he officiated for a short time as Inspector of Schools, and became a District and Sessions Judge in 1875. In 1881, he was desired by Sir Ashley Eden, the then Lieutenant-Governor of Bengal, to endeavour to effect a compromise of a heavy suit brought in the Court of the Subordinate Judge of Dacca against the then Nawab Khaja Ashanulla Bahadur, which threatened to break up the family. He was successful in arranging an amicable settlement and obtained credit at the hands of the Government for the great tact and intelligence he displayed on the occasion.

In 1883, he acted as Legal Remembrancer, and was called to the Bar by the Inner Temple in 1884, having studied for and passed the examinations for the Bar during two furloughs, with a view to qualify himself properly for high judicial office. In 1888, he was appointed to officiate as a Judge of the Calcutta High Court, and officiated as such on three subsequent occasions till confirmed on the 20th April, 1893. Upon the retirement of Sir Henry



Prinsep on the 30th March, 1904, he became the senior member of the Indian Civil Service in India.

In 1897, Mr. Justice Rampini was appointed a Fellow of the Calcutta University and for two years, 1899—1901, was the President of the Faculty of Law, and a Member of the Syndicate. On the reconstitution of the University under the new Universities Act, he has been reappointed a Fellow of the University. He has always taken an active interest in the work of the University.

In 1899, Mr. Justice Rampini was appointed President of the Board of Examiners in Oriental languages at Fort William for the whole of Upper India, which honorary office he has held since then.

On the 5th September, 1902, Mr. Justice Rampini was appointed an Additional Member of the Council of the Governor-General for the purpose of making Laws and Regulations. He was first employed at Simla in revising the Bill to amend the Code of Civil Procedure, and then in Calcutta, as a member of the Select Committee appointed for the same purpose. As the Bill was not proceeded with, he resigned his appointment in the Council on the 3rd September, 1903.

As an author and commentator, his Lordship's reputation stands high. He has brought out revised and greatly enlarged editions of "Alexander's Case-Law on Torts," "Field's Law of Evidence" and "O'Kinealy's Civil Procedure Code," and is the author of a work on the Rent Law of Bengal (commonly known as the Bengal Tenancy Act). All these works bear testimony to his great learning and research, and are highly valued and appreciated by the profession.

On the 25th July, 1903, the University of Edinburgh conferred on his Lordship *in absentia* the Honorary degree of Doctor of Laws.

In January 1906, Mr. Justice Rampini was appointed President of a Committee of officials and landholders, selected for the purpose of framing a Bill for the amendment of the Bengal Tenancy Act. The Bill has been framed and is now under the consideration of the Government of India.

Mr. HENRY ADOLPHUS BYDEN RATTIGAN, B.A., Barrister-at-Law, Legal Remembrancer, Punjab, is the son of the late Sir William Rattigan, M.P., K.C., and was born at Delhi in October 1864. After being educated at Harrow, he proceeded to Oxford (Balliol), where he took his B. A. degree in 1888, and was admitted at Lincoln's Inn in the same year.

Returning to India in 1889, he was enrolled as an Advocate at the Chief Court of the Punjab and

High Court, United Provinces. In May 1900 he was appointed Additional Judge, Punjab Chief Court, and in November of the same year Legal Remembrancer and Secretary to the Legislative Council of

Mr. HENRY ADOLPHUS BYDEN RATTIGAN.

the Punjab. In 1902 and 1904, he officiated as Judge of the Chief Court, and in October 1905 he was appointed 2nd Additional Temporary Judge of that Court.

Mr. GOPAL CHANDRA RAY, M.A., Assistant Comptroller-General of Accounts to the Government of India, was born in the year 1854 and educated at the Hindu School and Presidency College, Calcutta. He obtained his degree of Master of Arts of the Calcutta University in 1874. Mr. Ray then joined the Church Missionary Society's College at Calcutta as Professor of Natural Science and Astronomy. In December 1875, he was selected by Sir J. Westland for Government service in the Financial Department, after a competitive examination to test knowledge of Actuarial Science. In this Department he steadily rose till, in 1900, he was appointed by the Government of India to the post of Assistant Accountant-General, Bengal. Since this date his services have been utilised in several corresponding positions in the Account offices of Calcutta, Allahabad and Madras, until in October 1905 he was appointed to his present post. Mr. Ray comes of an historic family, being descended from Rajah Ramcharan Ray of Andul, the Dewan of Lord Clive. He is a lover of Sanskrit philosophy and literature and is the author of a Bengali work based on Xenophon's "Anabasis."

Mr. HUGH DAVEY RENDALL, I.C.S., was born at Great Rollright, Oxfordshire, in December 1872, the youngest son of the Rev. Henry Rendall. He was educated at Rugby (1886-91) and Trinity College, Cambridge (1891-96), almost a year of the latter period being spent at the coaching establishment of the late Walter Wren. He obtained honours in the Cambridge Classical Tripos, and in 1893 passed the Indian Civil Service examination. Arriving in India the following year, he spent five years as Assistant Collector and Magistrate at Ahmedabad and Godhra, afterwards becoming Assistant Judge, Satara, and Joint Judge, Ahmedabad. The special

duty of drafting the Famine Report for the Bombay Presidency claimed Mr. Rendall's services in 1903, after the completion of which he became Under-Secretary to the Government of Bombay in the Judicial Department. Ill-health soon compelled him to take long leave, and on his return to duty in April 1905, he occupied temporarily the post of Registrar to the High Court, Bombay, during the absence of the permanent incumbent. He is now

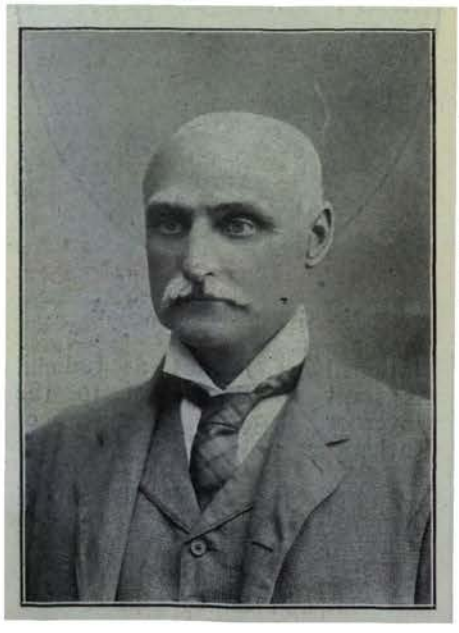
Mr. GOPAL CHANDRA RAY.

stationed at Rajkot as Judicial Assistant to the Agent to the Governor in the province of Kathiawar.

Hon'ble Mr. THOMAS WILLIAM RICHARDSON, I.C.S., Officiating Secretary to the Government of Bengal in the Judicial and General Department, and Member of the Bengal Legislative Council, was born in China in the year 1865 and sent home for his education, which he received at Brighton and Cheltenham Colleges and at New College, Oxford. He came to India in the Civil Service at the end of 1886 after passing the usual examinations. He has since joined the Inner Temple and been called to the Bar. Arriving in India, he was posted to the usual appointments for young Civilians. In 1892 he was placed on special duty to prepare the General Administration Report of the Government of Bengal. After some twelve years' service, he elected to join the Judicial branch, in which he has remained ever since, serving as Registrar of the High Court, and District and Sessions Judge, until his appointment

as Judicial Secretary and Member of the Legislative Council of Bengal.

Mr. FREDERICK TRAHERNE RICKARDS, Agent, Great Indian Peninsula Railway, is the second son of the Rev. Robert Francis Bute Rickards, one-time curate of Harberton, near Totnes, Devonshire, in which parish the former was born on January 8th, 1849. Some eight years afterwards, the Rev. Mr. Rickards became vicar of Constantine, near Falmouth, whither the family moved, and remained till the death of the Vicar in 1874. The Rickards family is of Welsh extraction, the earliest extant record being the



will of Henry Rickards, *alias* Fermore, dated 1465. Collins' Peerage (5th ed., p. 374) contains under the head of Fermour Earl of Pomfret, the following notice:—

"That the name of the family was anciently wrote Ricards, *alias* Fermour, appears as well from the authorities as from the last will and testament of Thomas Ricards, *alias* Fermour, whose mother was the daughter and heir of the family of Fermour, and his father, Ricards of Welsh extraction, by tradition in the family."

The family resided in Radnorshire, the branch from which Mr. F. T. Rickards is descended being derived from Robert Rickards, vicar of Llantrisant, 1767, whose second son, Robert Rickards, grandfather of the subject of this sketch, came to India in 1785, and rose to be a member of Council in the Bombay Presidency, retiring to England in 1811.

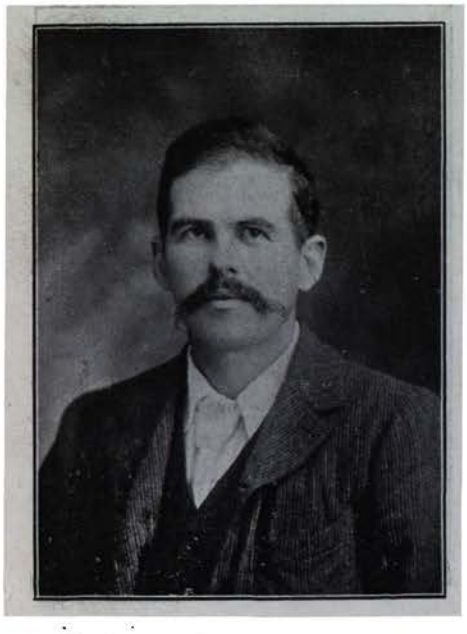
Mr. Rickards received his education at Exmouth, and afterwards at Kensington Grammar School, and Mr. Scoones' establishment for candidates for the Indian Civil Service. He came to India in the Government Telegraph Department, his service dating from November 1870, and he joined the B.-B. & C. I. Railway as Secretary to the Agent in August 1886, became Agent of the Indian Midland Railway in May 1895, and on the amalgamation of that line with the Great Indian Peninsula Railway was made Deputy Agent of the combined system. He became Agent on the death of Mr. H. Wenden, C.I.E.

Mr. HERBERT HOPE RISLEY, C.S.I., C.I.E., Secretary to the Government of India in the Home Department. Educated at Winchester and at New College, Oxford. Mr. Risley joined the Indian Civil Service on 3rd June 1873, arrived in India on 24th October in the same year. Nearly the whole of Mr. Risley's service has been spent in the Secretariat. He was Assistant Secretary to the Bengal Government as early as 1876, and in 1879 was appointed in the same capacity to the Government of India in the Home Department, and again reverted to the Bengal Government, till October 1880 when with the grade of Assistant Commissioner, 1st grade, he was appointed to officiate as Deputy Commissioner, continuing in that capacity till 1883 when he again officiated as Under-Secretary to the Bengal Government. In 1885, Mr. Risley was put on special duty for the purpose of compiling statistics concerning the castes and occupations of the people of Bengal, till 1888, in which year he was appointed on special duty to the Bengal Secretariat; in the same year he obtained his substantive grade as Deputy Commissioner, 2nd grade, and in the following year took furlough. Returning to duty in December 1890, Mr. Risley was appointed Member and Secretary of the Police Commission, and again placed on special duty in the Bengal Secretariat in the following year. In April of the same year he was appointed to officiate as Secretary to the Bengal Government, which appointment was confirmed and made substantive in 1892. After a period of leave, special duty and furlough, he returned to the same appointment in 1895, and in 1898 was appointed to officiate as Secretary to the Government of India in the Home Department, which was made substantive in 1903. He continues in the same appointment to the present day. Mr. Risley has been an Officer of the French Academy since 1891, Corresponding Member, Berlin Anthropological Society, 1896. His literary works are: "The Tribes

and Castes of Bengal," "Ethnographic Glossary," "Primitive Marriage in Bengal," "The Study of Ethnology in India," "Widow and Infant Marriage in Bengal, Sikkim and Tibet; and Hindu Infant Marriage," and "Anthropometric Data."

Mr. GEORGE PATRICK ROBERTSON, Municipal Engineer, Darjeeling, was born at Blairgowrie in Perthshire in the year 1869, and educated at Rattory School, then at Daniel Stewart's College, Edinburgh, and subsequently pursued his studies at the Heriot-Watt Technical College. He was indentured to Messrs. G. & W. Bertram, Mechanical Engineers, Edin-

burgh, and again to the Woodside Electric Company of Glasgow. His next experience was in marine work, taking two voyages as Electrical Engineer on board the S. S. *Nebraska*. Leaving the sea he proceeded to India to join an appointment as Engineer on the Amo Tea Estate, in which capacity he remained some five years. He continued in employment on engineering work at different Tea Estates in Sylhet and the Dooars till the year 1903, when he was offered and accepted the post of Municipal Engineer at Darjeeling. Mr. Robertson also holds the post of Electrical Engineer and Superintendent of the Water Works at the same station, and is Chief Engineer to the Darjeeling Fire Brigade, of which he was one of the promoters. He is a member of the Committee of the Darjeeling Golf Club.



Mr. GEORGE PATRICK ROBERTSON.

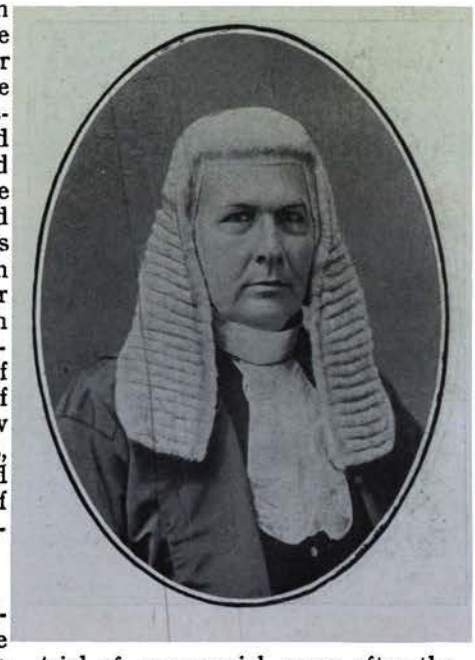
When acetylene gas first became a commercial possibility, he experimented successfully in the construc- of apparatus for its generation and use for laboratory blow pipes and heating purposes. He is a member of the Acetylene Association.

Major LEONARD ROGERS, M.D., B.S., F.R.C.P. (Lond.), F.R.C.S. (Eng.), I.M.S., Acting Professor of Pathology, Medical College, Calcutta. Major Rogers was born in January of the year 1868 at Plymouth, England, and received his education in Devonshire, and Plymouth College. He obtained his medical training at St. Mary's Hospital, London, where he studied from 1886 to 1892, and gained a number of prizes and scholarships. He came out to India in the year 1893, having entered the Indian Medical Service. Major Rogers has made his mark in Pathological investigation. He was singled out in 1896 to examine into the nature and causes of Kala-Azar, and this special enquiry occupied him for about a year. The Bacteriological Laboratory at Mukhteswar was placed in his charge in 1898, and here he conducted a most valuable series of investigations in Rinderpest and Surra and he made the first serum against the former disease in this country. At the expiry of one year, he was transferred to Calcutta, and employed in the Sanitary Department and as Professor of Pathology at the Medical College. He has attained considerable distinction by his work in pathological research in fevers, snake poisons, and liver abscesses. In conjunction with Sir Lauder Brunton, he has successfully established a treatment of snake bite with permanganate of potash. Major Rogers is a Fellow of the Royal College of Physicians, London, and has been appointed to deliver the Milroy Lectures of 1907 before the College, the subject being Kala-Azar.

The Hon'ble Mr. Justice STEPHEN GEORGE SALE, Judge of the High Court, Bengal, son of the late Rev. John Sale, was born in Barisal, Backergunge, in the year 1852. His father was a well-known Missionary, who laboured for many years with marked success in Eastern Bengal, and by reason of his knowledge of the conditions prevailing in that part of the country and the circumstances of its inhabitants was appointed a Member of the famous "Indigo Commission" by Sir John Peter Grant, Lieutenant-Governor of Bengal.

The subject of this sketch studied at the Regent's Park and University Colleges, London, and graduated from London University in 1874 with the degrees of B.A. and M.A. In 1876 he was called to the Bar, and in the same year came to India, becoming an Advocate of the High Court, Calcutta. Devoting his efforts mainly to the Original Side of the Court, in due course of time he obtained a leading practice. In 1893 Mr. Justice Hill was forced to discontinue his work on the Original Side owing to ill-health and Mr. Sale was appointed to act in his place. Two years later his appointment was confirmed on the resignation of Mr. Justice Norris. As a Judge he has been continuously engaged on the Original Side of the Court.

In 1895 Mr. Justice Sale was employed in introducing rules for the trial of commercial cases after the model of the procedure pursued in the English Commercial Courts. Similarly in 1898 he framed a scheme for modernizing the practice of the Calcutta Small Cause Court which is now in successful operation.



His attention has also been directed to the revision and amendment of the general Rules of Practice of the Original Side of the High Court. Some important changes have been made which, it is believed, will enable the Court to deal more rapidly and efficiently with its ever-increasing volume of work.

In 1902 Mr. Justice Sale presided on the Committee appointed by the

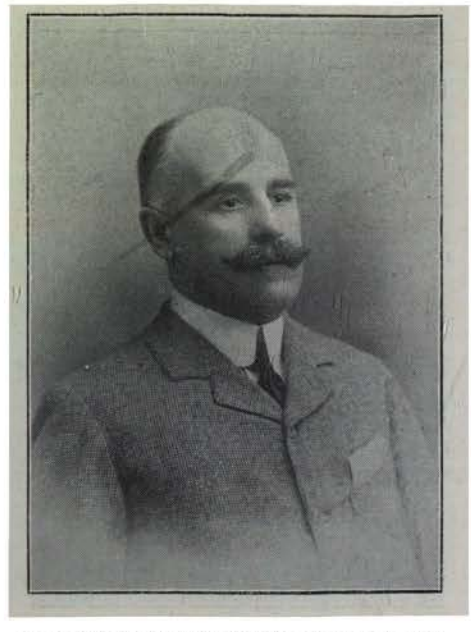
Government of India to inquire into and report on the working of the office of the Administrator-General of Bengal.

As regards Educational affairs, he is an active Member of the governing bodies of the La Martiniére Schools, the Bruce Institution, and the Bethune College for Indian girls.

In 1896, he was invited by the Lieutenant-Governor, Sir Alex. Mackenzie, to act as Arbitrator for the settlement of certain disputes between the Governors of the Doveton College concerning the management of that Institution.

Mr. RICHARD SHEEPSHANKS, B.A., I.C.S., Deputy Secretary to the Legislative Department, Government of India, was born in the year 1871 at Bilton, Yorkshire, and was educated at Winchester and St. John's College, Cambridge. He was appointed to the Indian Civil Service after the examination of 1894, and arrived in India, 27th December 1895. He first served as an Assistant Magistrate and Collector at Muzaffarpur for two years, and, after serving in various subdivisions, was appointed Under-Secretary to the Bengal Government, Financial and Municipal Departments, in May 1899, which positions he filled for about two years. In the year 1901 he was appointed Registrar of the High Court, Calcutta, and in January 1905 was appointed to the Legislative Department.

Mr. ALBERT EDWARD SILK, M. INST. C.E., was born at Gravesend, Kent, in 1862, and was educated at the Grammar School, Cranbrook, and the Royal Indian Engineering College, Coopers Hill. He was appointed to the Public Works Department as an Assistant Engineer on the 1st October 1882 and after undergoing a course of practical training on the Guildford and Surbiton, and Maidstone and Ashford Railways, he arrived in India in November 1883. Although trained as a Railway Engineer, Mr. Silk was posted on arrival in India to the Irrigation Department of the Government of Bengal. From 1883 to 1890 he worked on the Orissa Canals, and from 1890 to 1892 on the Sone Canals. The life of an irrigation officer is an arduous and anxious one, and after eight successive irrigation seasons, Mr. Silk's health was so impaired that it was decided to transfer him to the Darjeeling Division of the Public Works Department to prevent a complete breakdown. While Mr. Silk was on furlough in 1893, he was placed on special duty to examine and report on the sewerage system of Berlin, where the sewage farm system of disposal had been so successful, with a view to its introduction in Bengal. He also reported on the waterworks system of that city. On his return to India at the beginning of 1894 Mr. Silk was appointed Engineer to the Sanitary Board, Bengal, and later on in the year, Sanitary Engineer, Bengal, and Secretary to that Board. In 1895 Mr. Silk was selected by the Corporation of Calcutta to officiate as their Engineer for six months during the absence of the permanent incumbent. While on leave in 1898 Mr. Silk was again placed on special duty to study the then recently discovered biological systems of sewage disposal, and on his return to India the Government of Bengal directed the construction of an experimental septic tank in the Presidency Jail, Calcutta; this experiment, under Mr. Silk's careful attention, has led to the adoption of this system of sewage disposal in many of the large Mills, Factories and Works in the vicinity of Calcutta, and it is not improbable that it will eventually supersede the objectionable trenching system now in vogue in Municipalities in Bengal. In 1900 Mr. Silk was nominated by the Government of Bengal to be a Commissioner of Calcutta and a Member of the General Committee of the Calcutta Municipality, and since then he has been prominently connected with the Corporation, having on two occasions, in 1901 and 1903, acted as Chairman; and his expert knowledge of, and long experience in, sanitary work have proved of the highest value. The head-works of the Howrah Waterworks were constructed from designs by Mr. Silk, as were also the Berham-



pore Waterworks; and on his advice several of the other waterworks in Bengal have been extended and improved. Mr. Silk now holds the rank of Superintending Engineer in the Public Works Department, and is a Member of the Institution of Civil Engineers, Fellow of the Royal Sanitary Institute, and a Fellow of the Calcutta University, which latter honour was conferred on him in 1904.

The Hon'ble Mr. HENRY ALEXANDER SIM, I.C.S., C.I.E., F.R.G.S., belongs to a family that has in the past been intimately connected with India. His grandfather was General Sim of the

Madras Engineers, and his grandfather on his mother's side was General Fraser, who was Resident at Hyderabad for some fifteen years.

Mr. Sim was born in Madras in 1856, and is the son of the late

Mr. HENRY ALEXANDER SIM.

Mr. J. D. Sim, C.S.I., of Surrey, who was in the Madras Civil Service, and was a Member of the Council of the Presidency.

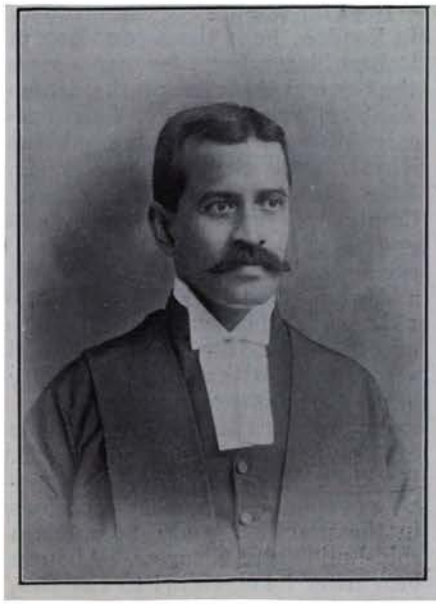
He was educated at Cheltenham College, and, passing into the Indian Civil Service, he left England for India in 1878. His first few years were spent in the ordinary routine of a Civilian's life. He was then attached to the Forest Department under Sir D. Brandis, who had been deputed by the Government of India to re-organize forest work in the Madras Presidency. He acted as his Private Secretary for a short time, and was then appointed District Forest Officer of one of the largest forest districts in the Madras Presidency, where he remained for some two or three years settling and organizing the forests of the district. He was then made Sub-Secretary to the Board of Revenue, with which department he remained connected for several years. He also acted as Collector and as Judge, and was eventually appointed Private Secretary to the Governor of Madras, Sir Arthur Havelock, from 1897 to 1901.

After a varied career in the several branches of the service, he was appointed a Member of the Board of Revenue, and to the Madras Legislative Council. Mr. Sim is a prominent Freemason, is a Past District Grand Warden of Madras, and has received other Masonic honours.

He is keenly interested in Indian philosophy and religions, and has given much study to this fascinating branch of Indian research.

Mr. Sim has recently had the honour of being appointed an additional Member of the Viceroy's Legislative Council.

Mr. S. P. SINHA, Officiating Advocate-General, Bengal, was born in the year 1863 at Raipur in the District of Birbhum, and comes of a long established family of zemindars. His early education was gained at the Birbhum Zilla School. He subsequently came up to Calcutta to attend the Presidency College where he had a distinguished career, but left for England without taking his degree. In England, he entered at Lincoln's Inn in the year 1881, and read for the Bar. Here he won the Inns



of Court Scholarship and Lincoln's Inn Exhibition in Roman Law, Jurisprudence, International Law, Common Law and Equity, of the value of 550 guineas. He was called to the Bar in July 1886. He then returned to India and was enrolled an Advocate of the High Court of Fort William in Bengal in November of the same year. His high attainments in law, and abilities as an advocate, rapidly brought

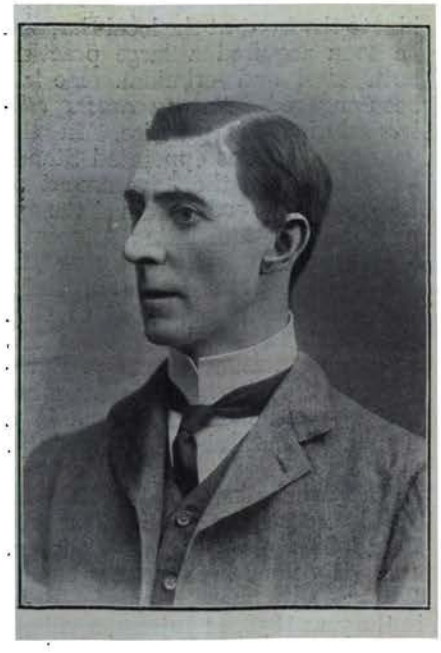
Rai Saheb ANNADA PROSAD SIRCAR.

him to the front at the local Bar, and he soon acquired a large practice, both civil and criminal. He has been engaged in many *causes célèbres* during his practice. In the year 1903, he was appointed Standing Counsel to the Government of India, and in 1906, obtained the appointment of Officiating Advocate-General of Bengal, this being the first time that a Native of India had ever been appointed to that high post. It is a tribute to Mr. Sinha's reputation that both European and Indian opinion favoured the appointment. Mr. Sinha is a Fellow of the Calcutta University.

Rai Saheb ANNADA PROSAD SIRCAR (son of Babu Tareenee Churn Sircar), Executive Engineer, 2nd Division, Calcutta Public Works Department, Bengal. Born in the year 1858, at Jujersa, a village near Calcutta. The Rai Saheb is a Seebpore man, having been educated at the Government Engineering College situate at that centre. He joined the Public Service in 1885 as an Apprentice Engineer in the Public Works Department and passed the earlier part of his

career in Irrigation work. During this part of his service he spent some twelve years in Orissa, employed in various works connected with irrigation, and was in charge of several Sub-Divisions. In the year 1897, he was transferred to the Buxar Division as Assistant Engineer, to serve on the Sone Canals, but his service in this connection was brief, being cut short by his transfer to the 2nd Calcutta Division, an appointment which he has now held since 14th April 1898. He has had charge of various important works during his service, among them being :—Albert Victor Leper Asylum, Gobra; New Buildings of Hastings House; and Presidency Jail.

Mr. JOSEPH SLADEN, B.A., (OXON.), I.C.S. Officiating Secretary to Bombay Government, General, Educational, Marine and Ecclesiastical Departments, was born at Allahabad, India, in 1866, and educated at Charterhouse and took his B.A. degree at Balliol College, Oxford. On arrival in India in 1888 he was appointed Assistant Collector,



Ahmedabad, where he remained for a year and a half, and in 1890 he was sent to officiate as Assistant Political Agent, Kathiawar. The following year he went to Sind as Assistant Collector and remained there for nine years. During more than five years of this period he held the post of Assistant Commissioner in Sind and Sindhi Translator to Government, and for two years acted as Collector, first of Shikarpur, then of Karachi, where he was also Chairman of the Port Trust. He was Municipal Commissioner, Bombay, for a few weeks in 1900. Returning to the Presidency proper after furlough in 1902, he was Collector of Surat for a year and ten months, leaving that post in 1903 for his present one. The family of Mr. Sladen has given more than one member to the Indian Civil Service. He is the elder son of the late Joseph Sladen, who came to India in 1856 in the Bengal Civil Service and was District Judge at Bareilly at the time of his death in 1887. The younger son, Mr. F. F. Sladen, I.C.S., is in the United Provinces. The subject of our sketch was an energetic member of the Sind Volunteer Corps and rose to the rank of Captain before he left the province.

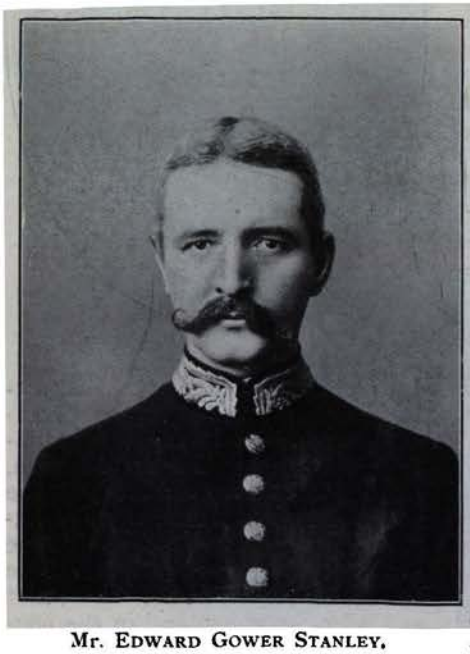
Mr. JOHN SANDERS SLATER, the Administrator-General of the Bombay High Court, is in the prime of life, and yet his career in India has been quite a varied one.

Born on the 21st of March 1859, in London, he is the second son of Robert Slater, Esq., for many years the General Manager of the Union Bank of London. After he had received his early education at the Royal Naval School, New Cross, Mr. John Slater joined Trinity Hall, Cambridge, in October 1877 and graduated B.A. in 1881. He joined the Inner Temple in October 1879, and was called to the Bar in June 1882. At first it was his intention to practise in the Admiralty Court; and accordingly, with a view to qualify himself for this special branch of law, for a time he read in the chambers of Mr. (now the Hon. Sir) T. T. Bucknill. He also spent a considerable portion of his earlier vacations in the practical study of modern ship-building at Glasgow. About a year after being called to the Bar, Mr. Slater joined the Western Circuit and attended the Assizes on that Circuit, as well as the Sessions at Bristol and Dorchester. In 1886 he resolved to come out to India to practise as a Barrister, and arrived in Bombay on the 11th of February 1887. He had practised at the Bombay Bar for about one year, when on Principal Wordsworth, the then Principal of the Elphinstone College, proceeding on furlough to England, Mr. Slater was appointed,

with the special sanction of the Secretary of State, to act for him as Professor of History and Political Economy. This appointment he held for a year and a half, during which he lectured in the College and also continued to carry on his legal practice in the courts. In 1889, when the late Mr. Kashinath Trimbak Telang was elevated to the Bench of the Bombay High Court, Mr. Slater was appointed to take his place as Government Professor in the Government Law School, Bombay. During his connection with this School Mr. Slater worked hard and earnestly in furtherance of its interests, and succeeded in raising it to a high level of efficiency. Among his many valuable services to the School the most important was, that he gave a permanent habitat to the Library of the Law School and made it accessible to every law student. Previous to this, the Library—or whatever semblance of it there was—had been in a state of complete chaos. It was Mr. Sanders Slater who made repeated representations to the Government and ultimately obtained for the Library its present splendid rooms on the ground-floor of the Elphinstone

College building. He further moved the Government to sanction the amount of over Rs. 2,000 to be spent on purchasing important works for the Library. He also secured from the Government an annual grant to provide for a librarian, and for the purchase of the latest works on law as occasion may arise. Thus the present and the future students of the Bombay Government Law School owe a deep debt of gratitude to Mr. Slater for the many facilities that he has placed at their command in the prosecution of their studies.

In 1891 and 1894, Mr. Slater was appointed to act for Mr. C. P. Cooper, who was then the Chief Presidency Magistrate and Revenue Judge. Ultimately, on Mr. Cooper's retirement, Mr. Slater was confirmed in this appointment on March 28th, 1895. Since then, until September 1905, he held the post with great credit to himself. In addition to his duties as the Chief Presidency Magistrate and Revenue Judge, Mr. Slater acted also as the President of Marine Courts of Enquiry held in the Presidency town. He was also Judge of the Court of Survey held under the provisions of the Merchant Shipping Act; Chairman of the Committee of Visitors of the Common Gaol and House of Correction; Chairman of the Managing Committees of the Government Workhouses and of the David Sassoon Industrial and Reformatory Institution; one of the Visitors of the Colaba Lunatic Asylum; a Fellow of the University of Bombay, and a Justice of the Peace for the Town and Island of Bombay.



Mr. EDWARD GOWER STANLEY.

From August 1389 to January 1896 Mr. Slater held a commission as Lieutenant in the Bombay Volunteer Artillery under the command of Major G. W. Roughton, in which corps he acted as Adjutant for about five years. Besides the usual proficiency certificate Mr. Slater obtained a certificate for proficiency in tactics, passing the necessary examination in Poona. He resigned his commission in January 1896, as his duties as Chief Presidency Magistrate might have clashed with those of a Volunteer Officer. Mr. Slater was gazetted Administrator-General of Bombay, and on his return to India after three months' leave to Europe on 22nd September 1905, entered upon the duties of his office.

Mr. Slater was married at Bombay on 25th October 1902 to Susie Wyllie, eldest daughter of Mr. C. W. L. Forbes, I.C.S., of Auchrannie, Aberfeldy, N. B.

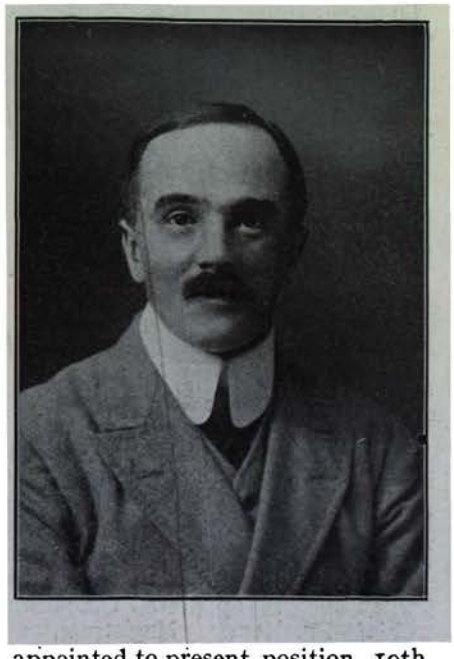
Mr. EDWARD GOWER STANLEY, Under-Secretary to the Government of India, Executive Engineer, Public Works Department, was born in 1865 at Lucknow. He was educated in England at the Warwick Grammar School, received his professional training at the R. I. E. College, Coopers Hill, and his practical training at the Bristol, Avonmouth, and Portishead Docks.

Mr. Stanley came out to India in 1887 as an Assistant Engineer and was posted to the Secunderabad Division, where he was employed on Military Works.

In October 1891, he was transferred to Burma as Personal Assistant to the Superintending Engineer, Mandalay, and subsequently held charge of that and the Thayetmyo Divisions.

He was permanently promoted to Executive Engineer in January 1897, and called upon to act as Assistant to the Chief Engineer and Under-Secretary to the Government of Burma in February 1898, which appointment he held with slight interruptions till April 1903, when he was made Under-Secretary to the Government of India.

Mr. GREY HUGH MORVILLE STREATFIELD, Personal Assistant to the Chief Engineer, Public Works Department, United Provinces, and Under-Secretary to the Government, United Provinces, Irrigation Branch, P. W. Dept., was born at Howick, England, on 19th November 1867, and arrived in India, 20th November 1892. Was



appointed to present position, 19th April 1905.

Mr. DAWES SWINHOE, Officiating Chief Presidency Magistrate, Calcutta, was born at Calcutta in the year 1866 and proceeded to England for his education, which he received at Cheltenham College.

After his educational course he entered at Lincoln's Inn and read for the Bar, to which he was duly called in the year 1888. He came out the same year to India and practised as Counsel at the Calcutta High Court. Mr. Swinhoe had the advantage of family connections in Calcutta legal circles, his father being the late Mr. William Swinhoe, a well-known Solicitor of Calcutta. Mr. Dawes Swinhoe is well known at the Bar as

an able and painstaking advocate and was singled out by Government for various important work in connection with legal matters. In 1899 he was appointed Indian Law Reporter. In the year 1903 he received the important appointment of Officiating Deputy Legal Remembran-

Mr. DAWES SWINHOE.

cer which he held till March 1904, when for a time he reverted to the Bar and again practised till his appointment as Second Presidency Magistrate in April 1905. In this capacity he acted till March 1906, when he was appointed Officiating Chief Presidency Magistrate, an appointment which gave great satisfaction to the Calcutta public who strongly prefer a Barrister to a Civilian in that capacity. Mr. Swinhoe is the author of several works on Indian Law. His annotated edition of the Indian Criminal Procedure Code, and of the Indian Penal Code, are standard works. Under the orders of the Government of Bengal, he compiled the Local Statutory Rules (in two volumes) in 1903.

Mr. ABANINDRA NATH TAGORE, Vice-Principal, Government School of Art, Calcutta, born 1871, is a member of the old and distinguished Jorasanko family of that name. He is the great-grandson of the famous Dwarka Nath Tagore. The Tagore family has long been known as distinguished for its literary, musical and artistic talents. Mr. Tagore's connection with the Government Art School dates from the time when Mr. Havell, the present Principal of that Institution, commenced to form a collection of specimens of Indian art for the Government Art Gallery in Calcutta.

Mr. Tagore is an artist of considerable excellence. He has followed the traditions of the Mogul School of Art without becoming an imitator, and so formed for himself a style which, while remaining purely Indian, possesses considerable attractions for European connoisseurs. He possesses the mystery of the East blended with a poetic charm and sentiment of his own. His paintings have excited admiration not only in India but in the Art centres of Europe. Some of his works were reproduced in the Studio, 1902-05. A painting of Mr. Tagore's entitled "The

Last Days of Shah Jehan" gained special notice at the Delhi Durbar, 1903.

Mr. ARTHUR SACKVILLE THOMSON, ASSOC. M. INST. C.E. (R. I. E. College), son of the late Surgeon-General W. A. Thomson of the Army Medical Service, born at Kingstown, Jamaica, January 1856. Educated at Southampton, Mr. Thomson joined the service on 24th September 1878, when he was appointed in England Assistant Engineer, 2nd grade. He remained in England on practical training from August 1878 to July 1879. He proceeded to India in November

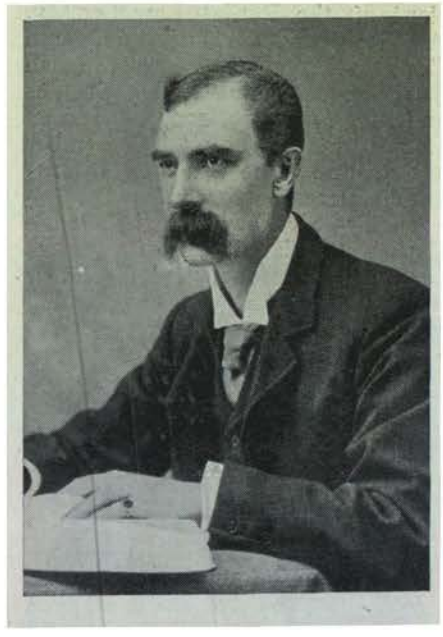
1879 and in the capacity of Assistant Engineer, served in the Brahmini-Byturni Division, Acquapada-Jaipur Division, Arrah Division, Dehri Workshops, till in 1889 he attained the grade of Executive Engineer, 4th grade. As Executive Engineer he served on the Sone Canals, in the P. W. D. Secretariat as Under-Secretary, and in the Darjeeling Division till 1898, when he held charge, as Superintending Engineer, of the Orissa and Central Circles. He was appointed Superintending Engineer permanently in 1902, and continued in charge of the Orissa Circle till 1905, when he was appointed to officiate as Chief Engineer and Secretary in the P. W. Department, Bengal.

Mr. RICHARD HUGH TICKELL, Executive Engineer, Punjab Irrigation, was educated at Coopers Hill, and came out to India in 1881. First, served for nine years in Central India in the Roads and Military Works Branches of the P. W. D. The design of the Daly College at Indore and the Mhow Water-Works

were the principal works on which he was employed. Joining the Punjab Irrigation Department in 1890, he served on the Western Jumna, Multan, and Bari Doab Canals, and surveyed the Ghuggur Canals. His services were lent to the Native States of Kotah and Jhallawar from 1896 to 1901. The New Palace at Kotah was built by him as well as many other handsome buildings; most of these were designed by him, such as the New College and Crosthwaite Institute at Kotah, and the Kemball Library at Jhalrapatan. His designs were selected for first prizes in two open competitions. He designed and commenced a Water-Supply project for Kotah City. Every available site for Irrigation projects were reported on by him, and designs for a large number of the most important of them prepared; a programme for the complete protection from Famine of the two States being made out by him. He partly constructed 50 miles of the Kotah-Bara Railway, and received the thanks of Political Agents and of the two Durbars on several occasions. Rejoined the Punjab Irrigation in 1902, and served on the Bari Doab Canal. In 1903 was posted to the Swat River Canal in the N.-W. F. province. In 1905 Mr. Tickell was put in charge of the Upper Swat Canal project, the boldest of all of Mr. Benton's splendid schemes, and the work was completed in seven months after a survey over the most difficult ground yet suggested for a canal in India.

Mr. RICHARD HUGH TICKELL.

The Hon'ble Sir CHARLES LEWIS TUPPER, C.S.I., K.C.I.E., I.C.S., was born in London on May 16th, 1848, and is the son of Capt. C. W. Tupper, late of the 7th Royal Fusiliers. Sir Lewis Tupper was educated at Harrow, and Oxford, where he held a Corpus Christi College Scholarship. He passed for the Indian Civil Service in 1869 and came to India in 1871. While at Oxford he had the advantage of hearing Sir Henry Maine deliver the lectures which were afterwards published as the book entitled "Village Communities in the East and West;" a circumstance which has given a bent to his studies throughout life. Sir Lewis was originally posted to the United (then North-West) Provinces, but obtained an exchange to the Punjab, because he thought that the settlements proceeding there might give him an opportunity of prosecuting his studies in the early history of property and society. He obtained the opportunity he sought, and as Assistant Settlement Officer, took up the subject of Punjab Customary Law, on which he published a book in three volumes in 1881. The leading belief which underlies this, and all or nearly all of his published writings, is that the ideas, customs and institutions of mankind are a fit subject for scientific examination, and have been evolved in an orderly sequence, which becomes more and more capable of precise statement as scientific comparison of ascertained facts proceeds. Sir Lewis began his work on Punjab Customary Law in 1873; in 1874 he officiated for the first time as Under-Secretary to the Punjab Government; and in 1875 he acted as Settlement Officer, Rohtak. He returned to the Local Secretariat in August of that year, and in September 1878, was appointed to officiate as Under-Secretary in the Revenue Department of the Government of India. He stayed with the Government of India for 3½ years and officiated for a short time as Secretary in the Revenue Department. He was also on special duty for about five months in connection with the Bengal Rent Bill. In 1882 he returned to the Punjab, having accepted the offer of the Junior Secretaryship to Government then just created. From 1884 to 1886 he officiated as Secretary to the Punjab Government, to which post (subsequently raised to a Chief Secretaryship) he was permanently appointed in 1888. Meanwhile in 1886 he had begun his second work, "Our Indian Protectorate," which applied to the Indian substitute for International Law, that is to say, to the rules and principles determining the relations between the British Government and its Indian Feudatory States, the same methods which had guided his examination of Punjab Customary Law. "Our Indian Protectorate" is even more a study of the evolution of forms of Government, than an historical explanation of the growth of Indian political law. Sir Lewis finished this work while on furlough in 1890-92, and during the same period he delivered various public lectures at the East India Association, the Indian Section of the Society of Arts, and elsewhere, the most important paper being one on "The Study of Indian History" read before the Society of Arts. He returned to India as Chief Secretary, Punjab, but was soon afterwards placed on special duty in the Foreign Department, which occupied him for two years. In 1897 when



again on furlough, Sir Lewis gave further lectures on "India and Sir Henry Maine" and "Early Institutions and Punjab Tribal Law." On return he was appointed Commissioner, Rawalpindi Division, and two years later Financial Commissioner of the Punjab. He has been a member of the Punjab Legislative Council (except when away from the Punjab) since 1898, and (with the same exception) Vice-Chancellor of the Punjab University since February, 1900. He has several times been appointed an Additional Member of the Legislative Council of the Governor-General, and in 1905 he held for six months the appointment of temporary Member of the Governor-General's Council. He is President of the Punjab Law Society. As Vice-Chancellor, he has delivered Convocation addresses on "English Jurisprudence and Indian Studies in Law" (January, 1901), "Indian Constitutional Law" (December 1902), and "The Study of Literature" (December, 1904).

In 1875 Sir Lewis married Jessie Catherine, daughter of Major-General Johnstone, C. B. Sir Lewis was made a C.S.I in 1897 and a K.C.I.E. in 1905.

Sir FREDERICK ROBERT UPCOTT, K.C.V.O., C.S I., M.INST.C.E.,

Chairman of the Railway Board, Government of India, was born, August 28th, 1847, at Cullompton, Devonshire; educated at Sherborne School, Dorset, and King's College, London; served his articles under J. M. Martin, Civil Engineer, and passed the examination in December 1868 for the Public Works Department of India, joining the service in that year as Assistant Engineer.

He was posted to the Railways then being started in India by the State, and was appointed to the Indus Valley Railway, on which he served eight years. On its completion he was sent to the North-Western Railway, where, in 1879, he earned the commendation of the Government of India for railway services during the Afghan War. Passing through the various grades, he was made Engineer-in-Chief of the Sind-Sagar Railway, and was specially commended by the Secretary of State for the rapid construction of that line, including the Victoria Bridge over the Jhelum river. He was in 1894 promoted to Chief Engineer, and commenced the Assam-Bengal Railway, being afterwards transferred to Madras as Consulting Engineer and Railway Secretary to that Government. In 1896 he became Director-General of Railways, and two years later Secretary to the Government of India.

He was created Companion of the Star of India and delegated to the International Railway Congress at Paris in 1900. From 1901 to 1905 he held at the India Office, London, the post of Government Director of Indian Railways, and was also member of the Council of the Institution of Civil Engineers, and was selected (by the Secretary of State) in 1905 to be the first Chairman of the Railway Board inaugurated by Lord Curzon.

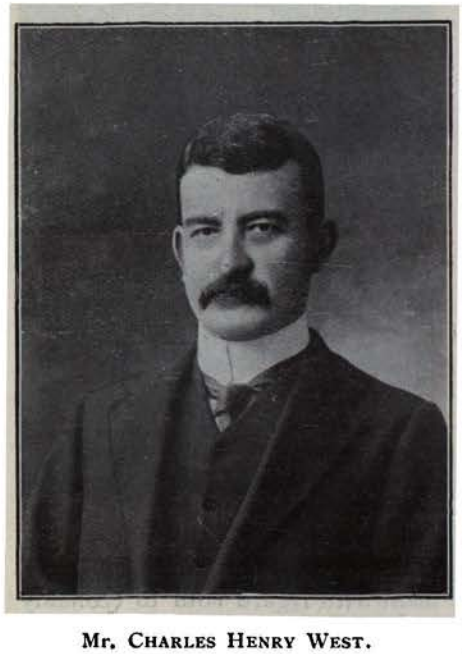
He served for twelve years in the Volunteer force and retired in 1901 with the rank of Lieutenant-Colonel.

Major J. C. S. VAUGHAN, M.B., C.M., Edin., I.M.S., Superintendent, Campbell Medical Hospital, Police Surgeon of Calcutta, Professor of Medical Jurisprudence, Medical College, Calcutta, was born in India in the year 1862, and educated at the Edinburgh University. He took his degree as M. B. with honours, at Edinburgh in 1885, and joined the Indian Medical Service in the year 1889. He arrived in India in 1890. Before proceeding to

India he held the post of Resident Physician at the Edinburgh Infirmary, and House Surgeon at the same Hospital, also House Physician at the Bradford Infirmary. On his arrival in India, he remained in military service till 1893, and served on two expeditions to the Miranzai Valley in 1891, and to the South Lushai Frontier in 1892, receiving medal and clasp. In 1893, Major Vaughan officiated as Civil Surgeon of Monghyr till the following year, when he was appointed to officiate as Resident Physician and Professor of Pathology at the Medical College, Calcutta. In July of the same year, he was appointed Deputy Sanitary Commissioner, Western Circle, Bengal, and in 1896, placed in charge of Professor Haffkine's system of preventive inoculation against cholera in Bengal. In 1897-8, Major Vaughan again reverted to military employment, and was sent to the North-West Frontier. He was present at the operations in the Swat and Mohmund Valleys, and in the Buner country, for which he received the medal and clasp. He returned to civil employment in 1898, and was posted as Civil Surgeon at Burdwan, and later on of Mozufferpore. In 1902, he received the officiating appointment of Superintendent of the Campbell Medical School and

Hospital which he held for a little over a year. In January 1905, he returned to his appointment and was confirmed in it in July 1905.

Mr. BERESFORD GAHAN WALLIS, M. INST. C.E., Engineer and Secretary to the Municipality of Simla, son of the late John Cooke Wallis, Esq., J. P. of Mine Hill, Mill Street, County Cork, Ireland, was born in 1849 at Waterford, and educated at Trinity College, Dublin, where he received his licence as a Civil Engineer. He joined the P. W. Department of India as an Assistant Engineer in 1871, and continued his service till in 1904, under the 55 years rule, he retired as a 1st Grade Superintending Engineer. The value of an Engineer's work is universally admitted; indeed his services proclaim themselves in the improved means of transport and travel; and this remark can be very well applied to the work done by Mr. Wallis, who was in charge of the buildings and roads branch of the P. W. D., during his whole period of office. Mr. Wallis has held many important executive charges during his period of service, having served in the large and important districts



Mr. CHARLES HENRY WEST.

of Peshawar, Derajat, Simla and Umballa, etc., and was in charge of three circles of superintendence in the Punjab (at different times), between 1895 and 1903. Mr. Wallis has seen active service on two different occasions, for which he has been rewarded with two medals and a clasp. He has also had large experience of works in various parts of the Punjab Frontier, etc.

The great improvements which have taken place in the fiscal arrangements in Simla, the improved roads, water-supply, sewage, have been largely owing to the above gentleman's administrative ability during the past three and-a-half years that he has held the post of Engineer-Secretary to the Simla Municipality.

Mr. CHARLES HENRY WEST, C.I.E., Personal Assistant to the Adjutant-General in India, is the son of the late Charles Henry West, Merchant. Born 20th April 1859. Entered the service in the year 1876 and served in Civil Departments of the Punjab until 1880, when he joined the Adjutant-General's Department. Served in the Burma Campaign; medal and clasp, 1886. In the year 1888 he married Agnes Lingard, daughter of the late Charles Murphy of the Survey of India Department. Mr. West was appointed March 19th, 1906, Assistant Secretary, Government of India, Army Department.

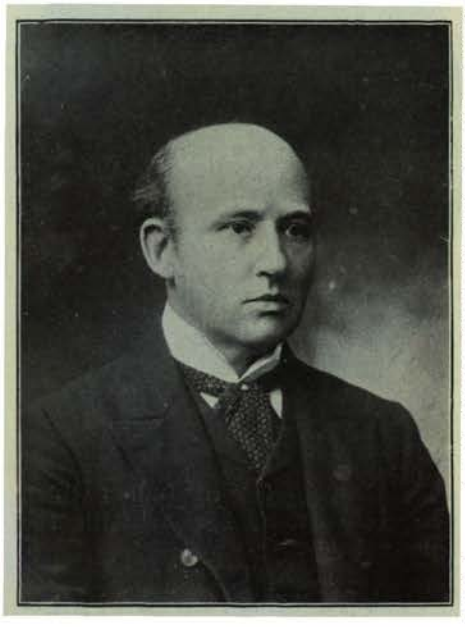
Major CHARLES AUGUSTUS MUSPRATT-WILLIAMS, R.A., Chief Inspector of Explosives to the Government of India, was born in the year 1861 at Rangoon, Burma, and educated at Cheltenham College, England. Major Muspratt-Williams obtained his commission in the Royal Artillery in July 1881, and joined a Battery of Garrison Artillery at Allahabad in the following year. In 1883, he obtained a transfer to the Field Artillery, whence after four years' service he passed to the Ordnance Department, in which he was appointed Assistant Superintendent of the Small Arms Ammunition Factory at Kirkee, Poona. From thence he was transferred to the Gunpowder Factory, Ishapur, as Assistant Superintendent in 1889, and in 1892 was appointed Superintendent, which post he held till the year 1898, being also ex-officio Chief Inspector of Explosives to the Government of Bengal at the same time. In the year 1898, Major Muspratt-Williams was appointed Chief Inspector of Explosives with

the Government of India, which appointment he has held till the present day.

The Hon'ble Mr. EDGAR FRANCIS LATIMER WINTER, I.C.S., Chief Secretary to Government of the United Provinces. Born in the year 1862 in Essex, England. Educated at Harrow (Scholar) and Trinity Hall, Cambridge. Passed into the Indian Civil Service in 1881, attached to the North-West Provinces and Oudh (now United Provinces), arrived in India, 20th November 1884. Passed through the usual ranks of the service till 1889 when he was appointed Deputy Superintendent, Family Domains, Maharaja of Benares, which post he held for some time. At the end of that year he was appointed Under-Secretary to Government, which post he held for 3½ years. In 1898 he was placed on special duty at Naini Tal in connection with the revision of the North-West Provinces and Oudh Revenue Acts. He was appointed Judicial Secretary to Government in October of that year, and in 1900 was awarded the Kaiser-i-Hind Gold Medal of the First Class for public services in India. On the

4th May, 1905, Mr. Winter was appointed to his present post of Chief Secretary to the Government of the United Provinces.

Mr. WALTER HERBERT WOOD, Member of the Indian Railway Board. Mr. Wood, previous to his coming out to India, was General Manager of the Hull



and Barnsley Railway, England. He was appointed by the Secretary of State for India first member of the Board and entered on his duties in March 1905.

Mr. JAMES TISDALL WOODROFFE, born at Glanmire, County Cork, 16th March 1838, is the eldest son of Very Rev. John Canon Woodroffe (dead). Married 1863, Florence, youngest daughter of the late James Hume, Barrister-at-law and Senior Presidency Magistrate of Calcutta. Educated at Trinity College, Dublin. University Scholar (Mathematics), 1858; B.A. 1859; Senior Moderations; Gold Medalist, Ethics and Logic; Barrister, Inner Temple, 1860; Advocate of late Supreme Court, Calcutta, 1860; Officiating Advocate-General, Bengal, 1892-93; Additional Member of H. E. the Governor-General's Legislative Council, 1899-1900; Advocate-General of Bengal, Calcutta, 1899-1904; made K. C. S. G. by His Holiness Leo XIII, for service rendered to the Roman Catholic Church in India.

Mr. TREVREDYN RASHLEIGH WYNNE, C.I.E., A.-D.-C. (*Colonel, Bengal-Nagpur Railway Volunteers*), Member of the Railway Board, was born at Brighton in 1854 and was educated at Brighton College and the Royal Indian Engineering College, Coopers Hill. He is the son of Llewellyn Wynne, of Mold, Flintshire, Wales. In 1874 he joined the Public Works Department as an Assistant Engineer, and he has been connected with the construction and control of Indian Railways since then, and has acquired a unique experience and knowledge of their working. After being engaged for some thirteen years in the construction of various State Railways, Mr. Wynne retired from Government service in 1887, and was subsequently appointed Agent and Chief Engineer of the Bengal-Nagpur Railway. It is in connection with this fine line that his name will be chiefly remembered in the railway history of India.

During the period that he held this appointment the whole of the present system of the Company, about 2,000 miles, was constructed and worked under his direction. He was instrumental in bringing the Bengal-Nagpur Railway into Calcutta, and he has made this Railway notable for its enterprise and good management.

Mr. Wynne's reputation as a railway expert was by no means confined to India. In 1902 his services were requisitioned for China to reorganize the concessions of the Engineering and Mining Company in Northern China. This work necessitated his residence in China for two years, and during that time he travelled a great deal in Manchuria. It was on the eve of the crisis that plunged Russia and Japan into a disastrous war, and Mr. Wynne had hardly completed the journey to Russia across the much-discussed Siberian Railway, when war broke out. Mr. Wynne stayed some little time in Russia, and then again in 1904 returned to India. When Mr. Robertson, the Special Commissioner appointed by the Government of India, completed his famous Report, the whole subject of the control of Indian Railways was under consideration. As a result of the report, the new Railway Board was appointed, and Mr. Wynne was selected as one of the three Commissioners. The Government of India have written as follows regarding the scope of the Board :—

"The conception of a Railway Board is not new; it has been advocated and considered on various occasions for many years past. Its central idea is that there should be a body of practical business men engaged with full authority to manage the railways of India on commercial principles, and freed from all non-essential restrictions, or needlessly inelastic rules . . . There are two distinct classes of duties with which the new authority will have to deal. The first is deliberative and includes the preparation of the railway programme and greater questions of railway policy and finance affecting all lines . . . . The second class of duties is administrative, and includes such matters as the construction of new lines by State Agency, the carrying

out of new works on open lines, the improvement of railway management with regard both to economy and public convenience."

It will be seen that the duties of the Commissioners cover an enormous field, and their responsibilities are of the widest. The success of the development of course depends on the personnel of the Board, and,

as it is at present constituted, it should infuse vitality into the railways and bind them into an intelligent federation. Mr. Wynne has always been an enthusiastic Volunteer. In 1888 he raised the Bengal-Nagpur Railway Volunteers. Col. Wynne was appointed in 1891 an Honorary A.-D.-C.to the Viceroy, and was created a C.I.E. on the 1st January 1903.

Hon. Mr. THOMAS GORDON WALKER, I.C.S., C.S.I., Financial Commissioner, Punjab, Member of the Imperial Legislative Council. Mr. Walker was born in Murrayshire, Scotland, in 1849, and is the son of the late Rev. H. Walker, received his education at the Gymnasium, Old Aberdeen, and subsequently at the Aberdeen University. He entered the Indian Civil Service in the year 1870, after passing the usual competitive examination. He arrived in India in November, 1872, and was appointed to the Punjab as Assistant Commissioner. From 1878-84 he was Settlement Officer of Ludhiana and also acted as Under-Secretary to Government. From 1884 to 1888, Mr. Walker held the post of Registrar of the Punjab Chief Court. In February 1888 he was appointed Senior Secretary to the Financial Commissioner, and subsequently held the post of Commissioner of Excise and Inspector-General of Registration. In 1896 he was appointed Deputy Commissioner, and Divisional Judge in 1898, being raised to the Bench of the Chief Court in December of the same year. In 1901 Mr. Walker was appointed Commissioner and Superintendent, Delhi Division, and in 1903 acted as Member of the Central Committee, Coronation Durbar, Delhi. In the same year he was decorated with the Order of the Star of India with the rank of Companion. In 1905 and in 1906 he was appointed Member of the Imperial Legislative Council.

The Hon'ble Mr. ARTHUR DELAVAL YOUNGHUSBAND, I.C.S., Commissioner, Bombay, was educated at Rugby and Clifton Colleges. After the examination of 1875 he was appointed to the Bombay

Civil Service. He arrived on the 9th December 1877, and served as Assistant Collector and Magistrate at Surat. He also held charge of the Office of Talukdari Settlement Officer and Assistant Political Agent. In 1885 he was put on special duty in connection with the trial of certain persons accused in an affray between Cambay and Gaekwadi village. The following year he was on duty at Poona under instructions from His Excellency the Governor. On his return from leave in 1888, he was appointed Administrator of the Rajpipla State, and in 1890 was Private Secretary to H. E. the Governor of Bombay. From the latter end of 1890-91 he was re-appointed Administrator of the Rajpipla State, after which his services were placed at the disposal of the Government of India for employment in the Central Provinces. In November 1891 he was transferred to Nagpur as Assistant Commissioner, and at the beginning of the following year was made Deputy Commissioner. In November 1893 he was appointed Political Agent, Chhatisgarh Feudatories, in addition to his own duties. After his return from leave in 1897 he was appointed Commissioner of the Chhatisgarh Division and held charge of the office of Political Agent. For the excellent work performed by him during his tenure of office, the Hon'ble Mr. Younghusband was awarded the Kaiser-i-Hind Medal in 1901 and retransferred to Bombay as Commissioner. In April 1903 he was appointed a member of the Committee to revise the Famine Relief Code in addition to his own duties, and in July of the same year was appointed as an additional member of the Council of the Governor of Bombay.

Professional.

Mr. DHANNU LALL AGARWALLA, B.A., Solicitor, Calcutta, was born in the year 1870, and received his education, first in the City College, and afterwards in the Presidency College. He obtained his articles from Mr. Leslie, Attorney-at-Law. After serving his articles, he was enrolled as an Attorney of the Calcutta High Court in the year 1896, and joined Mr. C. N. Manuel in 1897. Mr. Agarwalla and Mr. Manuel have continued to practise together since, the firm's name being Manuel and Agarwalla. Mr. Agarwalla is connected with the Marwari Association as Vice-President, and with the Vishudhanand Vidyalaya and Vaisya Sabha as President.

Mr. NOBIN CHAND BURAL, Attorney, Solicitor, Proctor and Vakeel of the High Court of Judicature at Fort William in Bengal. Mr. Bural was born at Calcutta in 1845, and educated at the Hindoo School and Presidency College. He served his articles to Mr. A. St. John Carruthers and was admitted in the year 1872. He started the firm of Nobin Chand Bural in the year 1875 and continued it under that designation until the year 1897 when he took Messrs. G. C. Set and M. L. Pyne into partnership, whereupon the style was changed to N. C. Bural & Co. Mr. Bural's services have always been held in high esteem as a lawyer in criminal practice. In the earlier years of his practice he devoted himself largely to this branch of practice and took part in many sensational trials. He was actively engaged in the great case known as the Wahabi trial, in which he assisted the famous Bombay advocate Mr. Anstey, who was brought specially across India to defend this case. Mr. Bural has devoted time to civil duties and has served as a Commissioner on the Calcutta Corporation for 20 years. He was appointed a Presidency Magistrate and a Justice of the Peace in the year 1876, and was invested with powers to sit singly for trial of cases, which office he

still holds. He has won the praise of successive Chief Presidency Magistrates. The useful institute known as the Calcutta Deaf and Dumb School, almost owes its existence to Mr. Bural, for at the time that it was struggling for continuance he took in hand its finances and in a short space of time succeeded in raising the respectable sum of Rs. 45,000 from the public for the erection of a school building. Mr. Bural is Vice-President of this institution, and also a member of the Asiatic Society of Bengal, Dalhousie Institute, British Indian Association, Bengal Landholders' Association, India Club, and Honorary Secretary of the Suvarnabanik Charitable Society, besides taking an active part in such charitable organisations as the Calcutta Benevolent Society, District Charitable Society, and S. P. C. A. He is a prominent Mason and an old Past Master, and has taken many honours among the Fraternity, having attained the degrees of Royal Arch in Chapter New Union, Mark Master and Royal Ark Mariner. As a Masonic Lecturer he has done eminent service to the Craft.

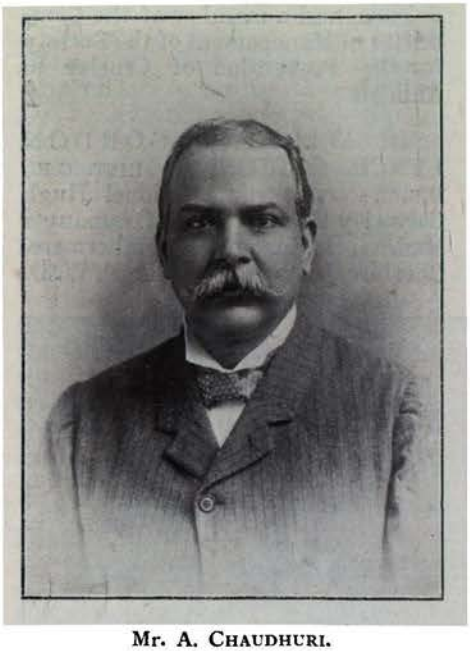
Mr. A. CHAUDHURI, M.A., Barrister-at-law, and Advocate of the High Court, has practised his profession in Calcutta for the past twenty years, and during that time has been identified with many of the important cases on the Original Side of the Court. After passing through the usual preliminary course of education, Mr. Chaudhuri attended the Calcutta University where he was the last student to take the B. A. and M. A. degrees simultaneously.

In 1881 he went to England, and entered St. John's College, Cambridge, remaining there until 1885; he graduated in Mathematics in 1884, and in the Law Tripos in 1885. He was for some years one of the editors of the College Magazine, "The Eagle," and was one of the founders of the Society of Indian students known as the Mujlis.

At Cambridge, he was contemporary with Dr. J. C. Bose, C.I.E., one of the most celebrated scientists of the day. His inclinations as a young man ran in the direction of literature and most of his spare time at St. John's was devoted to its study.

On his return to India in 1886, he had to face severe competition, and for a time experienced all the vicissitudes of a beginner. There was also at that time some prejudice against Bengali barristers who have, however, established their position. Mr. Chaudhuri attributes their success largely to their knowledge of the country and its languages. His talents, however, were appreciated quite early in his career and his work at the Bar speaks for itself.

Outside his profession, he takes the keenest interest in politics and as Honorary Secretary to the Bengal Landholders' Association, he is in a position to exercise considerable influence. He strongly opposed



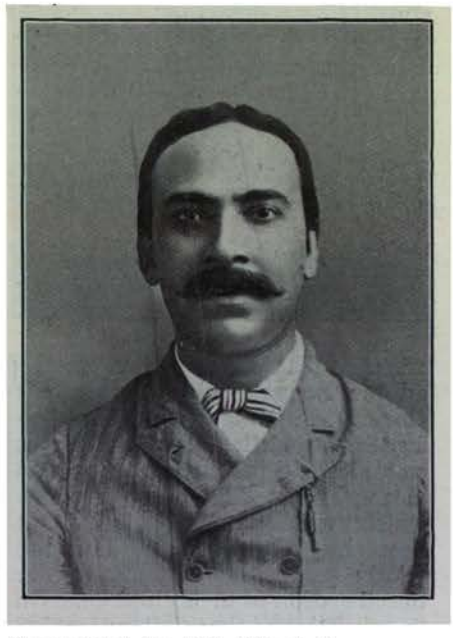
Mr. A. CHAUDHURI.

the partition of Bengal and drafted a representation for the Association which the then Viceroy, Lord Curzon, characterised as the ablest and strongest produced by the opposition. When President of the Bengal Provincial Conference held at Burdwan in 1904, he delivered an address on the political situation of the day, the text being "A subject race has no politics" which created a public discussion in the press of India lasting over a year. Much notice was taken of it in European papers.

Mr. Chaudhuri is a firm believer in the *Swadeshi* movement for which, however, he claims no political significance. He is of opinion that the industries of India should be encouraged, and in principle claims for the country rights similar to those enjoyed by the Colonies. As an elected Fellow of the Calcutta University, he takes the keenest interest in educational matters, and is closely identified with the recently formed "National Council of Education" with which Dr. Sir Gurudas Banerjee, C.I.E., late Vice-Chancellor of the Calcutta University, is also associated. Since the death of his father, however, Mr. Chauduri's second brother, Mr. J. Chaudhuri, has been elected to the Bengal Council and is now sitting as the representative of the Rajshahye Division. Mr. Chaudhuri's six brothers have all since his return finished their education in England. All of them have graduated in different Universities, and one of them, Captain M. N. Chaudhuri, is in His Majesty's Indian Medical Service. The family occupies a leading position in Bengal.

The Hon'ble Mr. JOGESH CHANDRA CHAUDHURI was born on the 28th June 1864, and comes from an old zemindar family of Haripur, Pabna, through whom Dewan Ram Deva Chaudhuri, the reputed founder of the Nattore Raj family, obtained great distinction at the time of Nawab Murshid Quli Khan, the founder of Murshidabad. On his mother's side he is descended from the Roys of Bág (Kasinathpur), Pabna, who trace their descent from one of the twelve Bhunians of Bengal who were territorial magnates and wielded large political powers in Mohammedan times. His father, the late Durgadas Chaudhuri, was a scholar of the Hindu College, and a pupil of Dr. D. L. Richardson, and one of the earliest members of the subordinate executive service in Bengal. The Hon'ble Mr. J. Chaudhuri is his second son. He was educated at the Collegiate School at Krishnaghur and at the Presidency and St. Xavier's Colleges at Calcutta. After obtaining his M. A. degree, he was for a time Professor of Chemistry and Physics in the Metropolitan Institution, Calcutta. He then proceeded to England, and joined New College, Oxford, where he took Science preliminaries and Honours in Law Final. He is also a Barrister-at-Law of the Inner Temple and an Advocate of the Calcutta High Court. As Editor of the *Calcutta Weekly Notes*, the only Weekly Law Journal in India, which has been in existence for ten years, he has acquired a position in the Newspaper world.

The first Industrial Exhibition in connection with the Indian National Congress was successfully inaugurated by him in December 1901. Since then Indian Industrial Exhibitions have been held in Ahmedabad, Madras, Bombay, and Benares, simultaneously with the Congress and in co-operation with the Government. He is also a founder of the "Indian



Stores, Ld.," a Joint Stock Company, who confine their business to articles of Indian manufacture. Many of the leading men in Bengal are shareholders in this Company. The objects are to collect articles of indigenous manufacture and promote their sale. This may be said to have given the start to the *Swadeshi* movement in Bengal.

He was unanimously elected by the Municipalities of the Rajshahye Division to represent them in the Bengal Council, where he has for the last two years advocated the improvement of the Bengal rivers and waterways. He has also pressed for the sanitary improvement of the rural areas which suffer so much from malarial fever.

Mr. GONESH CHUNDER CHUNDER, son of Cashi Nauth Chunder, who was head Native Assistant in the firm of Messrs. William Moran & Co., Merchants and proprietors of the old Mint Mart in the City of Calcutta, was born at Calcutta on the 11th May

1844. At an early age he received his Bengali education in the Government Bengali Patsala in College Square in Calcutta. In 1853 he commenced his English education in the Hindu Metropolitan College, which was established in that year by educated and wealthy Hindu gentlemen of Calcutta, for the education of their children. On the abolition of that College in 1858 he joined a private school known as the Bengal Academy, which was founded by Mr. Charles D'Cruze, an educationist of that time. In 1860 he passed the University Entrance Examination from that school and obtained a gold medal for proficiency in studies.

In 1861 he became a student of Doveton College, but at the end of 1862 by the desire of his father he left the Doveton College, and early in 1863 became an articled clerk to the late Babu Rama Nath Law, a member of the firm of Messrs. Swinhoe & Law, then a flourishing firm of Attorneys and Solicitors in Calcutta. His articles expired early in 1868, and in that year he appeared in, and successfully passed, the examination for Attorneys, and was enrolled an Attorney of the High Court in February 1868. Shortly after his admission he joined the late Mr. W. F. Gillanders, also an Attorney of that Court, as a partner in his business, and the name of the firm was changed to Gillanders and Chunder. In 1872 he separated from Mr. Gillanders and commenced to carry on the business of an Attorney in his own name. In the same year, in pursuance of the rule passed by the High Court he was admitted a Vakeel of the High Court.

In 1876 when the elective system was introduced into the Municipal Administration of the town of Calcutta, he was elected as a Commissioner for Ward No. 10 (Bow Bazar), in which he resides, and represented that ward in the Calcutta Municipality down to the year 1892. During this period he also served on the Town Council of the Calcutta Municipality. In 1876 he was appointed an Honorary Presidency Magistrate, which apointment he still holds.

In 1883 he was appointed one of the Board for the Attorneys' examination, which appointment he also still holds. In 1889 he was appointed a Fellow of the University of Calcutta. He is at present an Honorary Fellow of that University.

In 1892 he was appointed by Government a Member of the Bengal Legislative Council, from which he retired in 1894 when his term of office expired.

Mr. Chunder was Deputy Sheriff of Calcutta in 1888 when the late Dr. Mahendra Lal Sircar, M.D., D.L., C.I.E., was the Sheriff. He has acted also as Deputy Sheriff to the following Sheriffs: the late Hon'ble Shahzada Mahomed Furrock Shah, in 1891, to the late Babu Joy Gobind Law, C.I.E., in 1895, Shahebzadah Mahomed Buktyar Shah, C.I.E., in 1900, and the late Mr. H. M. Rustomjee, C.I.E., in 1902.

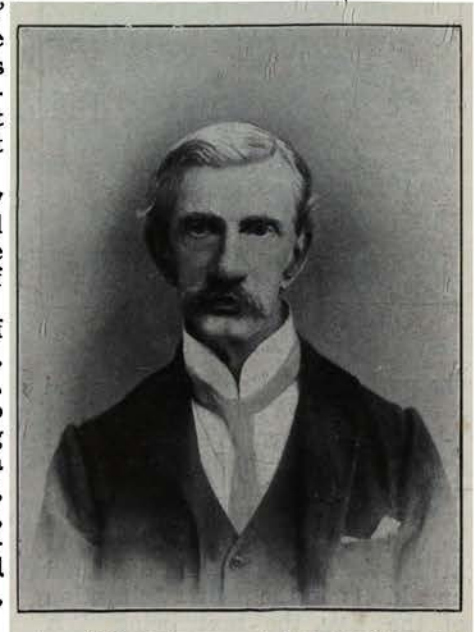
He carried on his business as Attorney singly in his own name from 1872 to 1894, when his eldest son, Raj Chunder Chunder, M.A., passed the examination of Attorneys of the High Court, and in that year he admitted his son and Babu Lakshminarain Khettry, B.L., also an Attorney of the High Court, as partners in his business, which has since that date been carried on under the name and style of G. C. Chunder & Co.

Mr. Chunder was initiated into Freemasonry in 1882, in Lodge Anchor and Hope, No. 234, under the English Constitution, and filled the Eastern chair for two successive years in 1893 and 1894. In 1894 he was appointed to the office of the District Grand Registrar in the District Grand Lodge of Bengal.

He has been a Member of the British Indian Association since 1879, and has taken part in its affairs as a member of the Committee of Management.

He is a Trustee of the Indian Association for the Cultivation of Science, and a member of the Committee of Management of the Society for the Prevention of Cruelty to Animals.

Mr. WILLIAM GORDON LYNCH COTTON, M. INST. C.E., M.S.A., son of the late Colonel Hugh Calverley Cotton, E. I. Company's Madras Engineers, of Cumbermere, Cheshire, joined the Indian P. W. D.



in 1866, being posted to Delhi. As early as 1870 he was appointed Executive Engineer of the 4th grade, and two years later Assistant Secretary to the Government of India. In 1873 he officiated as Under-Secretary. That same year he was posted to the 2nd Circle for special

duty in connection with the erection of the Naga Bridge, and later, in November, having been transferred to Bengal, rendered service on the famine works, for which he received the thanks of the Government. For services rendered in connection with the famine in Madras, in 1877 he received the thanks of the Madras Government. Promotion followed these special duties, and in 1881, Mr. Cotton was appointed an Executive Engineer, 1st grade. On return from furlough in 1884 he officiated as Superintending Engineer. In 1889 he was appointed Superintending Engineer, Bhagalpore Division, and the same year was granted leave for two years to count for pension. He retired on pension in 1891. Aside from his profession, Mr. Cotton was gazetted a Magistrate in 1868, was elected Member of the Society of Arts in 1870, and an A.M. Inst. C.E. in 1874 and transferred to Membership in 1890. He joined the firm of Oldham Brothers, Civil Engineers, in 1890, becoming sole proprietor in 1895. From this firm he retired in 1902 to become a Consulting Engineer. Since 1891 he has been Consulting Engineer to the Administrator-General of Bengal. He prepared the working plans and supervised the construction in 1894-96 of the large premises on Dalhousie Square, erected by the Standard Life Insurance Company.

Messrs. CORNFORTH AND MISTRI, Bombay, Incorporated Accountants, established in 1896, have their offices at 4, Bruce Lane, Bombay. Mr. Nusserwanji Rustomji Mistri, F.S.A.A., the sole proprietor, was born in 1865 in Bombay, and received his education at Sir J. Jeejeebhoy's Charitable School in that City. His first experience was acquired in the Government of India and the Government of Bombay, Public and Military Works Departments, Accounts Branch, which he joined in 1879. He resigned the Government service in 1894, to assist Mr. J. P. Cornforth, Incorporated Accountant, and entered into partnership with him in 1898, acquiring the sole proprietorship a year later on the death of Mr. Cornforth. With additional responsibility came the desire to extend his sphere of usefulness, and Mr. Mistri, supported by Mr. Burjorji Pestonji Poncha of Pochaji & Co., China Merchants, provided a long-felt want by starting in Bombay a school called the "Accountancy Institution" of commercial educational subjects of the

Mr. N. R. Mistri.

London Commercial Examination Board, subjects which are now included in the curriculum of the Educational Department of the Governments of Bombay and Bengal. Public examinations in this connection were first introduced in Bombay by Mr. Mistri as a teacher in Accountancy and Commercial subjects, and the commercial community are thus enabled to recruit their offices with trained hands. Mr. Mistri enjoys a fairly large patronage as Auditor for about 25 firms in Bombay, Calcutta, Karachi, Colombo, etc.

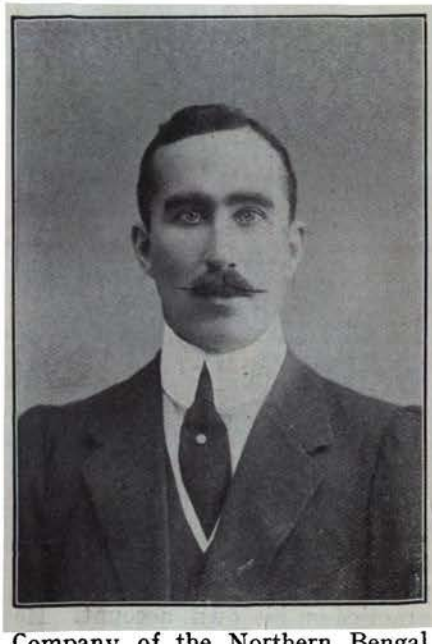
Mr. SHAMUL DHONE DUTT, Solicitor, senior member of the firm of Shamul Dutt & Gupta, is the son of the late Kali Charn Dutt, Zemindar. He was born at Calcutta in the year 1843 and educated at the Hindu College and at the Presidency College. His first articles were to Mr. W. F. Gillanders, but subsequently these were transferred to Babu Roma Nauth Law, of the firm of Swinhoe and Law. Mr. Dutt duly passed his examination in the year 1870 and was enrolled in December of the same year. As he had passed before his turn, he had to endure a wait of six months before being enrolled. Mr. Dutt's abilities speedily brought him in business when he commenced to practise on his own account, and for some years he conducted single-handed his growing practice, but later he took into partnership Mr. Nalin Chandra Gupta, who had been his articled clerk. The firm after Mr. Gupta's enrolment became Dutt and Gupta under which title it is still carried on and has become very prominent in legal circles. Mr. Dutt takes an interest in public affairs and in all matters appertaining to the well-being of his countrymen.

Mr. ROBERT FOREST DEDRICKSON, L.R.C.P. (ED.), L.R.C.S. (ED.), L.M.D. (DUBLIN), was born in Dublin in the year 1856, and educated at the Royal College of Surgeons in the same city, and subsequently at Edinburgh University. He attained the distinction of Senior Prizeman in Surgery in 1875. His first practice in surgery was experienced in the service of the Star Line of steam ships, with which he sailed as Surgeon for a time. After a period of this description of work he

proceeded to India and commenced practice on his own account. He was Honorary Surgeon to the Port Defence Volunteers for a period of sixteen years. He is a prominent Mason, having been connected with the Craft for twenty-five years.

Every degree in Masonry has now been passed by him, and he has occupied the Eastern Chair in all the degrees. He is also a Past Preceptor of Knights Templar and is a Past Most Wise Sovereign of Rose Croix. He has been twice Master of Lodge "True Friendship."

Mr. WILLIAM HAROLD EDWARDS, Solicitor (*Captain, Northern Bengal Mounted Rifles*), Darjeeling, was born at Liskeard, Cornwall, and educated at Sherborne Public School. In 1888 he was articled to Messrs. Geare and Mathew at Exeter and served the last year of his articles with Messrs. Geare, Son & Pease, Solicitors, Lincoln's Inn Fields, London. He passed the final examination in 1893, after which he remained with the latter firm for the period of a year. In the following year he was engaged in Parliamentary work for the N. E. District of Cornwall with the Unionist Party. He left England in the year 1895 and came to India to join the Calcutta firm of Solicitors, Messrs. Orr, Robertson and Burton, with whom he remained for eight years until 1903, when he took over his present practice from Mr. Edmund Upton. Mr. Edwards is a member of the Municipal Commission; commands the Maxim Gun



Company of the Northern Bengal Mounted Rifles; is the Captain of the Darjeeling Volunteer Fire Brigade; a Steward of the Darjeeling Races; is President of the Band Fund Committee, and a member of the Darjeeling Improvement Fund Committee.

Messrs. ALEXANDER FLETCHER FERGUSON & Co. are a firm of Chartered Accountants with their offices in Green Street, Bombay,

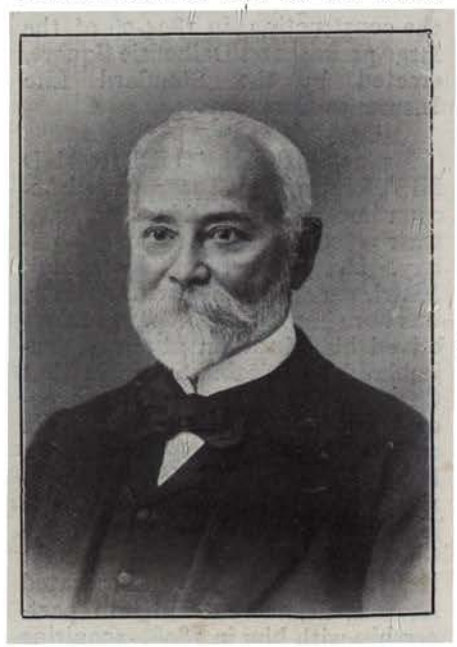
Mr. A. F. Ferguson.

where they started business in 1893. Mr. Ferguson, the senior partner, was born in Scotland in 1860 and educated at the Perth Academy, at London University, and is an English Chartered Accountant. He has been in the service of several firms in London including that of Messrs. Cooper Brothers & Co., Chartered Accountants, one of the principal houses in that profession. Mr. Ferguson came over to Bombay in 1889 joining Messrs. Richie Steuart & Co., Merchants (now extinct), and was appointed to the charge of their Accounts Department. In 1893 Mr. Ferguson seeing that there was a good opening in Bombay for the practice of his profession began business on his own responsibility, and had the distinction of being the only Chartered Accountant practising in that capacity in Bombay twelve years ago. The firm audit the accounts of public companies, adjust partnership and executorship accounts, and are employed in the valuation of the goodwill of concerns, and in the promotion of public companies.

The other partner is Mr. W. Turner Green, C.A., of Glasgow, who has been in partnership with Mr. Ferguson for the last three years, Mr. Allan L. S. Roberts, C.A., filling the office of Assistant.

Messrs. Ferguson & Co. discharge the duties of Secretaries to the Bombay Fire and Marine Associations, and adjust the accounts in connection with all large fire losses in Bombay.

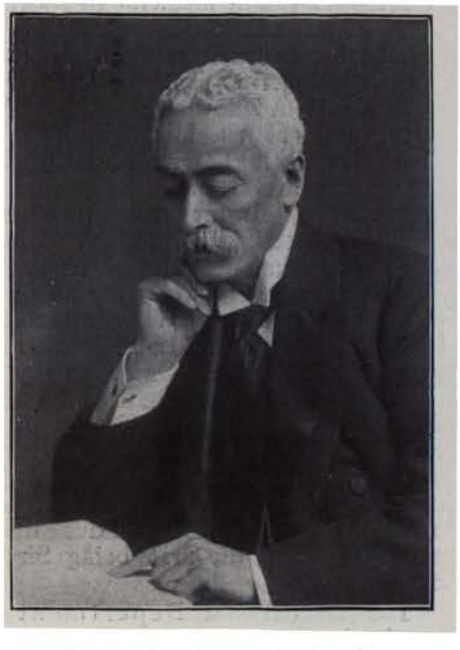
Mr. THOMAS THEOPHILUS FORBES, Bar.-at-law, of Dilkusha House, Lucknow, and Plaisance, Mussoorie, was born in India, being the third son of Mr. Alexander John Forbes of Forbesganj in the District of Purneah in Bengal, a well known and highly respected Indigo Planter and Zemindar, himself the grandson of General Forbes of the Honourable East India Company's Service, at one time officiating Commander-in Chief in India. Mr. T. T. Forbes proceeded to England as a youth to finish his education, and after the termination of his studies entered at Lincoln's Inn and was called to the Bar in the year 1867. He returned to Calcutta in 1871, and for a short time practised in that city. He presently proceeded to Lucknow in Oudh and soon established himself as one of the most



successful leaders of the Bar in the North-West Provinces and Oudh, now incorporated in the United Provinces. He practised law diligently till the year 1893, when he

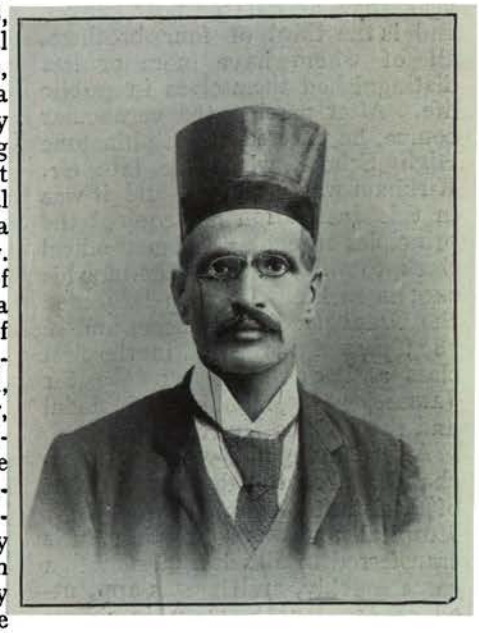
retired owing to failure of his health. Mr. Forbes is an advocate of the High Courts of Calcutta and Allahabad and of the Court of the Judicial Commissioner of Oudh. He is a large landed proprietor in Mussoorie and a great many residences in that station are his property. He has taken considerable interest in the improvement of that hill Sanitarium and is one of the founders of the New Race Course and Polo Ground.

Mr. CHARLES PIFFARD HILL, Barrister-at-law, is the youngest son of the late James Hill, Merchant of Calcutta. He was born at Calcutta on the 15th December 1841, and proceeded to England for his education, and later to Germany. He pursued his University career at Corpus Christi College, Cambridge, where he held a scholarship. While at the University he became Captain of his College Boat Club. Mr. Hill's University studies were marked with distinction. He took a Senior Optime Degree in the Mathematical Tripos in the year 1864. After leaving College he commenced to read for the Bar and was called by the Society of the Inner Temple in April 1867. For some years he practised in England, joining the



old Home Circuit and the Surrey Sessions. Mr. Hill returned to India in January 1871 and was enrolled in the same month as an Advocate of the Calcutta High Court, where he has since practised.

Dr. NANABHAI NAVROSJI KATRAK, born in December 1858, is a well-known Bombay Medical Practitioner, a Justice of the Peace, an Honorary Magistrate, and a prominent member of the Bombay Municipal Corporation Standing Committee. He was Vice-President of the Grant Medical College Medical Society, and an Examiner in Materia Medica in the Bombay University. Is author of "Materia Medica of India" and their therapeutics, a book containing a complete list of Indian drugs. Receiving his education in the Elphinstone High School, he established a debating Society, which flourished as long as he remained there. During his career he carried off several prizes and eventually joined the Grant Medical College, and distinguished himself by winning several scholarships in Medicine and Surgery. Shortly after passing his L. M. & S. degree he was appointed Special Medical Officer for the Cholera Epidemic in 1883. He joined the Grant Medical Society, of which he was made Secretary, and introduced a system of discussing important subjects, and afterwards wrote a paper on Fever which was considered attractive by all the Medical faculty. He contributed three papers towards the Indian Medical Congress held at Calcutta which were much approved of, and also took a keen interest in social and political questions. In his own community Dr. Katrak is one of the reformers and takes a keen interest in the advancement and progress of his own people. He is connected with many institutions having for their objects advancement, social, moral and physical, and is always ready to serve the city and its people. Dr. Katrak was elected a candidate for a seat in the Municipal Corporation, and succeeded in securing the Fort Ward. From the beginning he was known to be painstaking and did his best as a member of the Corporation to look to the sanitary condition of Bombay. In 1896 he was elected a member of the Standing Committee, and in 1899 its Chairman. During the plague epidemic he took a prominent part, and persuaded many people to be inoculated, having himself set the example. He is a man highly respected by



his own community and the public for the useful work he does in his private and public capacity.

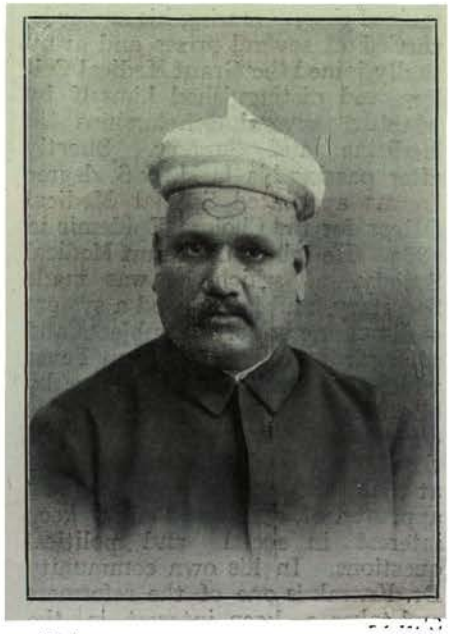
Sir BHALCHANDRA KRISHNA, Bombay. A man of great activity, kindly, genial, quick to sympathize with the sufferings of the poor, and never sparing himself in the service of his country, Sir Bhalchandra may be truly said to occupy, in some respects, a unique position in the public life of Bombay. Ever since he established himself here as a medical practitioner, now twenty years ago, after resigning his appointment as Chief Medical Officer and Durbar Physician in the Baroda State, he has steadily risen in his profession and is justly regarded as the "prince of practitioners" and a leader of the Hindu community. Although he has always enjoyed a very large professional practice, he has yet found time to associate himself with institutions working for the public good. In 1889 he was returned to the Municipal Corporation, as the representative of the Girgaum Ward, subsequently being placed on the Standing Committee, and was later appointed Chairman of that body, a position he held for three successive years. As the scope of

his usefulness gradually widened, he was unanimously elected President of the Corporation for 1898-99.

Sir Bhalchandra was born in the year 1852, at Palaspe near Panvel, and is the third of four brothers, all of whom have more or less distinguished themselves in public life. After passing the vernacular course, he entered the Elphinstone High School, while the late Mr. Kirkham was Principal, and it was in this Institution he acquired the principles of regular and methodical work, to which he is indebted for his success in life. In 1869 he joined the Grant Medical College, and in 1873 passed his L. M. in the first class and carried off the Sir Jamsetjee Jeejeebhai Gold Medal and the Charles Muirhead prize.

After leaving College Dr. Bhalchandra accepted the appointment of Assistant Surgeon in the J. J. Hospital, and was soon afterwards transferred to Bandra. Promotion came quickly, and he was appointed as Assistant Surgeon in charge of the Hospital at Palanpur, a post of considerable responsibility and trust. Palanpur in those days did not differ much in points of education and progress from other districts. The people had no faith in the English system of medicine and were reluctant to take advantage of the facilities placed within their reach by the State, and consequently it was an exceedingly difficult and delicate task for Dr. Bhalchandra to inspire confidence in a people grossly ignorant and superstitious and inclined to regard English medicine with suspicion and distrust. Tact and judgment were necessary qualifications, and it is no exaggeration to say that these, combined with his innate sympathy contributed, in a considerable degree, to the rapid popularization of English medicine in the Palanpur State.

A more difficult task, however, lay before him, *viz.*, that of maintaining his relations with the Political Agent on the one hand, and the Durbar on the other, and to steer clear of the factions in the State. He was eminently successful in keeping himself in good favor with both, until domestic bereavement, and chiefly the unsuitability of climate, rendered it necessary for him to seek a change from the scene of his early labours. Sir W. G. Hunter, his old Principal, readily offered to entertain his services as a teacher in the Vernacular Class at the Grant Medical College, but the Surgeon-General could ill spare him from Palanpur. At last Dr. Bhalchandra succeeded in his efforts and was transferred to Bassein. He did not retain this appointment for long, as he was appointed Principal of the Vernacular College of Science, started by the late Raja Sir T. Madhav Rao, the then enlightened Dewan of Baroda. The institution had, in its initial stage, to work under adverse circumstances, but under the wise guidance of its able Principal, it soon overcame all obstacles, and won the approbation of Mr. Melville,



the then Agent to the Governor-General. Finding the work entrusted to him too arduous, Dr. Balchandra applied to the British Government for permission to revert to his permanent appointment; but Her Highness Maharani Jamnabai Saheb exerted her influence with the Agent to the Governor-General and Raja Sir T. Madhav Rao, to retain him in the service of the State, with the result that his duties were reduced and his salary increased. Both Mr. Melville and Raja Sir T. Madhav Rao held him in high esteem and, on the retirement of Dr. Cody, he was appointed to the highly responsible post of Chief Medical Officer and Durbar Physician. This opened a career of greater usefulness to him, and his name has become a household word in Baroda and the neighbouring districts as an ideal physician. Although, it is now nearly twenty years since he severed his connection with Baroda, he still continues to act as Consulting Physician to many of the Native States in Guzarat and Kathiawar.

In the year 1885 Dr. Bhalchandra came to Bombay and established himself successfully as a private practitioner. He was nominated a Fellow of the Bombay University in 1887, and was subsequently elected a Syndic in medicine for two successive years. He was one of those who fought so strenuously for the raising of the status of graduates in medicine, and the substitution of the degree of M. B. for L. M. & S., and under the able leadership of the late Mr. Justice Ranade, succeeded in getting the vernaculars introduced into the curriculum of the M. A. examination. The Senate of the University showed their appreciation of his services by unanimously electing him in 1901 as their representative on the Local Legislative Council (to which he had already been once previously nominated by Government in 1897), and he was elected a Dean in medicine in 1904.

Neither was the Government behind other bodies in recognising his worth and merits. They nominated him a J. P., a fellow of the University, and in 1897 a Member of the Local Legislative Council, and it was during his first term of office that the Bombay Improvement Trust Bill was passed. In company with Sir Pherozshah he played no insignificant part in the elimination of some of its objectionable features. Government showed their further appreciation of his services by the bestowal of a Knighthood on him, an honour the significance of which can be best understood in the light of the fact that he was the second recipient of that distinction amongst the Hindus in the Presidency, the first being Sir Manguldas.

The Educational Department resolved some few years since to introduce alterations in the orthography of the Marathi reading series, which, in the opinion of competent Marathi scholars, were

unreasonable and uncalled for. A Committee was formed to combat the proposed changes with Sir Bhalchandra as its President, and a strong memorial against the action was submitted by him to the Government with the result that the proposals were abandoned.

His services in connection with the Hindu Calendar Reform Committee of which too he is the President, have been equally valuable and meritorious. It was through his influence and exertions aided by those of his colleagues on the Committee, that the movement proved a complete success.

Sir Bhalchandra is 55 years of age and has yet before him, let us hope, a long span of years of continued usefulness.

Messrs. LOVELOCK & LEWES, Chartered Accountants, No. 25, Mangoe Lane, Calcutta.

The firm was founded early in 1873 by Mr. W. A. Browne, who was one of the pioneers of Accountancy in India. In 1880 the Institute of Chartered Accountants was incorporated and Mr. Browne became a member.

Mr. A. S. Lovelock, A.C.A., joined Mr. Browne in 1880 and became a partner in April 1881, the firm being styled "Browne & Lovelock."

Mr. J. H. Lewes, A.C.A., who had been practising in London, came to Calcutta in February 1883 as an assistant of the firm and became a partner in May 1886, the name of the firm being changed to "Browne, Lovelock & Lewes."

Mr. W. A. Browne retired from the firm in May 1889 and established himself in practice in London. The name of the firm was then altered to "Lovelock & Lewes" and it has since remained unchanged. In June 1889, the firm removed from Commercial Buildings, where the business up to that time had been carried on, to No. 25, Mangoe Lane, in which house they have remained up to the present.

Mr. C. H. Coates, A.C.A., and Mr. E. W. S. Russell, A.C.A., who had been assistants of the firm from April 1892 and June 1891 respectively, became partners in May 1900.

In November 1903, Mr. A. S. Lovelock died suddenly on the eve of his retirement after 30 years of work, amid widely-expressed testimony to the esteem in which he had been held, and to his personal powers of attraction.

Mr. A. H. Lewes, B.A., A.C.A., and Mr. R.R. Griffith, A.C.A., who had been assistants of the firm since 1897, became partners in May 1905. The Staff consists of 5 Partners, 10 European Assistants (all of whom with 2 exceptions are Chartered Accountants) and 49 Native Assistants.

Mr. FRANKLIN MARSTON LESLIE, B.A., (*Captain, 2nd C.V.R.*), Solicitor, of the Firm of Leslie and Hinds, High Court, Calcutta, son of the late Sheppard John Leslie, Solicitor, High Court, Calcutta, was born at Dum-Dum, near Calcutta, 9th September 1868, and educated at Doveton College, Calcutta. Matriculated Calcutta University, December 1882. Passed First Examination in Arts, Calcutta University, in March 1885, and obtained Morgan Testimonial Medal in English Literature in that year. Graduated B. A. with Honours, Calcutta University, from Presidency College, March 1887. Enrolled Solicitor, High Court, Calcutta, June 1893. As a Volunteer has served for 20 years and is now a Captain

in the 2nd Battalion, Calcutta Volunteer Rifles. Was granted the Long Service Medal in March 1906. As a Freemason is I. P. Master of Lodge Defence, No. 2839 E. C., Wor. Master of Lodge, East India Arms No. 3080 E. C. (1906 A. D.), P. Z. of Royal Arch Chapter Hope, No. 209 E. C. (1906 A. D.) Also 18° K.T. and K.M. and M.M.M. Mr. Leslie married Helen, daughter of Henry Bawn Addis, M. INST. C.E., on the 13th April 1895, and has issue two sons and two daughters.

Mr. CHARLES NORMAN MANUEL, Solicitor and Vakil, Calcutta.

This well-known Calcutta lawyer was born in the year 1846 and educated at the Doveton College in the same city. He was admitted an Attorney and Solicitor of the High Court at Fort William in Bengal in the year 1871, and as a Vakil of the same Court in 1886. He is a member of the firm of Manuel and Agarwalla. Mr. Manuel has a very high reputation in Criminal Court practice to which he has largely devoted himself, though he has not neglected practice on the Original Side of the High Court. In the Criminal Courts, he is known as a most successful pleader and his practice is very large. He is one of the leading lawyers in that line in Calcutta.

Mr. KALI NATH MITTER, C.I.E., Solicitor and Vakil of the High Court, belongs to a Kulin Kayastha family. He was educated at the Hindu School and Presidency College, and after finishing his education became articled to

the late Mr. E. H. Sims, Solicitor, Calcutta. He was enrolled as an attorney in July 1868 and entered into partnership with Mr. Sims, with whom he continued until 1873, when he began to practise on his own account. He was admitted as a Vakil of the High Court on the 27th July 1872.

In 1893 he was joined in his practice by Babu Deva Prasad Sarbadhikary, M.A., B.L., and they have continued together since under the name of Messrs. Kally Nauth Mitter and Sarbadhikary. He is a member of the British Indian Association, of which he has been elected as one of the Vice-Presidents, and was for 23 years an elected Municipal Commissioner of Calcutta, in which capacity he took an active and prominent part in the settlement of most of the momentous matters which were brought up for discussion during that period. He with several others, owing to some misunderstanding with the Local Government, resigned his seat in the Corporation. While a Municipal Commissioner he was appointed by Government to serve on committees appointed to consider the desirability of the introduction of the Octroi system, and that of the amalgamation of some portion of the suburban area with the town area, and in consequence of his intimate knowledge of Municipal affairs, Sir Rivers Thompson nominated him as a member of the Legislative Council of Bengal, in which capacity he served for two years, during which period the Municipal Act of 1888 was passed. He was one of the joint Secretaries of the Albert Victor Permanent Memorial Fund which was made over to the Government and became the nucleus of the Albert Victor Hospital at Belgatchia, and he has recently been appointed by Government as a member of the Committee for organising a paying Ward in the Medical College Hospital for the benefit of the Indian public. He is also a Governor of the Bhagawan Dass Bogla Marwari Hospital. Sir Alexander Mackenzie, the Lieutenant-Governor of Bengal, appointed him a Member of the Calcutta Building Commission under the presidency of the Hon'ble Mr. Justice Trevelyan, as a result of the labours of which Commission the existing Municipal Act, so far as the Building Regulations are concerned, was passed. He has been a Presidency Magistrate for many years and is a leading member of the Kayastha Sabha which makes social reform on strictly Hindu lines its object.

For his various and meritorious services he received the decoration of C.I.E. in 1901.

Mr. ALFRED ERNEST MITCHELL, M.A. (Oxon), was born at Edgbaston, Warwickshire, in 1869, and is the second son of Bruce Mitchell, Esq., and grandson of William Mitchell, whose name is a household word as the inventor of the J pen. At the age of 11 he went to school at Vevey in Switzerland where he remained for a year and a half. From thence he went to Uppingham School whose head master was then the celebrated Dr. Thring. On leaving Uppingham he went to reside in Paris for the purpose of acquiring a knowledge of the French language. He subsequently matriculated at Oxford and went to Merton College, and in 1892 he took honours in the school of Jurisprudence. Shortly after he was articled to Messrs. Morgan, Price & Mewburn, of 33, Old Broad St.,

London E.C., and after qualifying as a Solicitor in 1894 he remained on at their office until the latter portion of 1896 when he came out to Calcutta to the firm of Messrs. Morgan & Co. in which firm he became a partner in January 1903. He is athletic and took several prizes at Uppingham for gymnastics, and he figured a good deal on the running track at Oxford, taking most of his College events. For the last two years of his course he represented Oxford against Cambridge in the cross country running. He is a very keen fly-fisher.

Messrs. MEUGENS, KING & SIMSON, Chartered Accountants, 102, Clive Street, Calcutta.

Mr. Marc Meugens.

This firm was started in September 1880 by Mr. Marc Meugens, who was joined by Mr. F. St. Aubyn King on 1st January 1884, the firm being thus "Meugens & King." In June 1892 Mr. Anstruther Frank Simson, C.A., of Edinburgh (who came out to India in 1886 and had established himself as an Accountant in Calcutta) and Mr. Edward Mortimer Shand, C.A., of Glasgow (who came out originally to Rangoon to the firm of Messrs. Binny & Co. but joined Messrs. Meugens & King's Rangoon Branch in 1890 as an Assistant) were admitted partners, and the name of the firm became "Meugens, King & Simson, Calcutta," "Meugens, King & Shand, Rangoon." The firm in Calcutta has been carried on from that time up to the present under that name. In 1904 the Rangoon business was given up. Mr. Shand died in October 1901 and Mr. F. St. Aubyn King in June 1902. Mr. A.

F. Simson retired in 1904 and Mr. Marc Meugens in September 1905, and the following partners were admitted in place of those retiring :—

Mr. E. E. Meugens, A.C.A., 1st July 1902.

Mr. G. P. Neison, A.C.A., 1st March 1904.

Mr. H. W. Hales, A.C.A., 1st July 1905.

The firm now consists of—

PARTNERS.

Mr. Edward Earle Meugens, A.C.A.
Mr. Gordon Percival Neison, A.C.A.
Mr. Herbert Walford Hales, A.C.A.

ASSISTANTS.

Mr. Walter Percy Daniel, A.C.A.,
Mr. John Woodhouse Thurston, A.C.A.,
Mr. Edward William Viney, A.C.A.,
Mr. Wallace Powell, A.C.A.,

all of whom are Members of the Institute of Chartered Accountants in England and Wales, and a Native staff of over thirty in number.

Khan Bahadur MUNCHERJEE COWASJEE MURZBAN, C.I.E., F.R.I.B.A., M.INST.C.E., was born in July 1839, and is one of the oldest

Khan Bahadur M. C. MURZBAN.

and most distinguished of Indian Engineers. He served the Government of Bombay in many capacities throughout a period of 36 years, and for seventeen years, prior to his retirement, was Executive Engineer of the Presidency city of Bombay. On the Corporation of the City offering him the appointment of their Chief Executive Engineer, he left the service of Government to take up that appointment. He

Dr. S. O. MOSES.

was President of that Corporation in 1891. He served the Municipality for nearly eleven years, retiring in 1903. Mr. Murzban has left his mark on Bombay. Many of the Public buildings which adorn the City were constructed under his supervision, some of them being from his own designs. His work in carrying out Fancy Fêtes for charitable purposes, and the Bombay Exhibition of 1904 were much appreciated by the public of Bombay. In Salsette he has established a new town which is called "Murzbanabad," after him. He is a Justice of the Peace and a Fellow of the Bombay University. He was appointed Sheriff of Bombay for the year 1905-06.

Dr. STEPHEN OWEN MOSES, L.R.C.P., L.F.P.S.G., Calcutta, is the youngest son of the late Mr. Owen Moses, who was in the firm of Messrs. McIntosh, Malloy and Dallas, Solicitors. He was born at Calcutta in the year 1853 and educated at La Martinière and St. Xavier's Colleges in the same city. For a time Dr. Moses was employed in the Emigration service, taking several voyages in charge of emigrants to the West Indies and Natal. Leaving this employment he proceeded to Scotland and pursued his medical studies at Glasgow where he qualified at the Royal College of Surgeons and also at Edinburgh. He practised for four years at Aberfeldy, Scotland, till the year 1880, when he returned to India and commenced practising at Calcutta. After a practice in India extending over 23 years Dr. Moses went to Europe and took a special course of study in Dublin. He has long been in attendance at the Home for the Aged kept by the Little Sisters of the Poor at Lower Circular Road, Calcutta.

Dr. JOHN EMMANUEL PANIOTY, Surgeon-Colonel, *late 3rd C. V. R.*, son of the late Demetrius Panioty, C.I.E., Assistant Private Secretary to successive Viceroys from Lord Lytton to Lord Elgin. Dr. Panioty was born at Calcutta on the 5th October 1856, and educated at St. Xavier's College, Calcutta. He passed the Entrance Examination of the Calcutta University in

Dr. J. E. PANIOTY.

the year 1872, and the First Examination in Arts at the same institution three years later. He was then enrolled as a student at the Medical College, Bengal, and in the year 1878 passed the first examination for the degree of M. B. He then

proceeded home, and was enrolled as a student of St. Thomas's Hospital, London, and later of St. Mary's College, London. He obtained the diplomas of Licentiate of the Royal College of Surgeons, Edinburgh, Licentiate of the Royal College of Physicians, Edinburgh, and Licentiate of the Royal College of Physicians, London, in 1882. He held the post of House Surgeon at the Hospital for Women at Soho Square, London, from April to September 1883. Before proceeding to India, he was granted a certificate as Public Vaccinator, and shortly after his arrival was appointed Surgeon

Mr. A. C. PAYNE.

Superintendent in charge of emigrants from Calcutta to Surinam (Dutch Guiana), and in April 1884 Surgeon Superintendent in charge of returned emigrants from there. His next appointment was as Officiating Resident Surgeon with private practice of Park Street Dispensary, and was confirmed in that appointment in 1887. He was next transferred to the Chandney Hospital as Resident Surgeon with private practice, which appointment he resigned in 1899, and in 1896 he was appointed Medical Officer in charge of the Licensed Measurers' Department, Bengal Chamber of Commerce, which appointment he still holds. Joined the C. V. R. in 1890, and was appointed to the Cadet Battalion, then known as the 2nd C. V. R. Appointed Surgeon-Captain 1894, Surgeon-Major later. On the disbanding of the Corps which was then known as Cadet Battalion, 3rd C. V. R., he was retired with the rank of Surgeon-Lieutenant-Colonel and permission to wear the uniform of the Corps. Member of the British Medical Association and Honorary Presidency Magistrate, Calcutta, and Life Member of the National Association for Supplying Female Medical Aid to the Women of India "The Countess of Dufferin's Fund."

Mr. ARTHUR CHARLES PAYNE, M.S.A., Architect, Bombay, was born in the year 1867 in London, and was educated privately in England and Germany and the South Kensington Art Schools. On the completion of his education he was articled to Mr. Frederick Thos. Pilkington, of 24, Russell Square, W.C. He remained with Mr. Pilkington for nine years. In 1896 Mr. Payne started in practice at 74, Regent Street, London, and several buildings were erected from his plans and under his supervision. In 1900 he came to Bombay and started to practise at his present address. He is the Architect for the Orient Theatre Company, Limited, the Gaiety Theatre, and The City of Bombay Buildings Company, Limited.

Messrs. PAYNE AND COMPANY, Solicitors and Notaries Public, were established in 1868 by Mr. Henry Wood Payne (in practice at the present time in London) who was joined in partnership in 1869 by the late Mr. Joseph Jefferson, then carrying on business in Bombay, the partnership continuing for eleven years, till 1880 when it was dissolved. In 1881 Mr. Reginald Gilbert replaced Mr. Jefferson, and the title of the firm was altered to Messrs. Payne and Gilbert. Another change of title was made in 1884 (on the occasion of the Honourable Mr. Rehimtula Mahomed Sayani being admitted to partnership), and again in 1899 to Messrs. Payne, Gilbert, Sayani & Co. In 1885 Mr. H. A. H. Payne joined the firm while his father, Mr. H. W. Payne, retired. Twice again the title changed—in 1900 to Messrs. Payne, Gilbert, Sayani and Moos when Mr. N. H. Moos became a partner; and in 1903 when the firm amalgamated with Messrs. Framji and Dinshaw (following the death of Mr. Sayani and the retirement of Mr. Gilbert) to Messrs. Payne & Co. Mr. H. A. H. Payne, the present senior partner, was born in 1862 at Calcutta and was educated at St. Peter's College, Radley, and King's College, London, matriculating at the University of London while there. In 1885 he was admitted as Solicitor to the Supreme Court of Judicature in England and at once proceeded to Bombay where he has been practising in the above firm ever since. He was admitted a Notary Public in 1900.

Mr. H. A. H. PAYNE.

Mr. Payne holds the following offices :—

Chairman of the Westralia Mt. Morgan Syndicate; Chairman, Sirdar Carbonic Gas Company, Limited; Chairman of the Western India Motor Company, Limited; Director of the Leopold Spinning, Bleaching and Manufacturing Company, Limited; Messrs. James Greaves Mills Company, Limited; the Empress Spinning and Weaving Company, Limited; Messrs. Howard and Bullough Mills Company, Limited; the Connaught Mills Company, Limited; the Kohinoor Mills Company, Limited; and the Orient Theatre Company, Limited.

Messrs. Payne & Co. act as Solicitors to all these concerns.

Mr. HENRY HAMILTON REMFRY, Solicitor, Notary Public and Patent Agent, is senior member of one of the oldest legal firms in India. He came to Calcutta in February 1863, and, after serving his articles,

Mr. H. H. REMFRY.

passed successfully and was admitted as a partner in the business in which his father had years before been senior member. That firm was originally styled Grant, Remfry and Rogers, and up to the time of Mr. Grant's retirement he held the Government Solicitorship.

Early in his professional career Mr. Remfry evinced a great interest in Industrial Law. In thirty-five years he has worked up a Patent Agency business which has now a commanding position with accredited agents of standing in every quarter of the globe. A large proportion of the Patents granted in India for years past have been obtained through Messrs. Remfry & Son, the style under which the business is now carried on.

Mr. Remfry is a member of the Calcutta Christian Schools Society, and since its start has identified himself with the Y. M. C. A. Besides this he is a member of numerous societies, scientific and otherwise. His work "On the Codification and Improvement of Law in British India" is often quoted. He is also the author of a brochure on "Inventions Likely to Pay in India." A forthcoming work by him is entitled "India from a Business Point of view."

Mr. CHARLES EDWARD BALDWIN SEAL, M.R.C.S. (Eng.), L.R.C.P. (Lond.), (*Captain, Northern Bengal Mounted Rifles*), was born in the year 1864 at Leigh Delamere, Wiltshire, and educated at University College, London, whence he qualified. Mr. Seal took his diplomas in the year 1888. He practised at home for some three years till in the year 1891, he came out to India to set up practice in the Tea districts. After some years spent as a medical practitioner in Sylhet and the Terai, he came to Darjeeling in 1897, where he has ever since practised. Mr. Baldwin Seal takes a considerable interest in volunteering, and is Captain of A. Squadron, Northern Bengal Mounted Rifles. He is a Municipal Commissioner of Darjeeling. He is also a prominent Brother of the Craft, being Past Master of Lodge "Mount Everest," Darjeeling, the Mark Lodge "Yeatman-Biggs" and Past First Principal, "Mount Everest" Chapter.

Mr. THOMAS ROBERT STOKOE, Barrister, was born at Peckham Rye, Surrey, December 24th, 1833. His father, Richard Stokoe, was a doctor. He went to school at Shooter's Hill, near Woolwich, and afterwards to Wellingborough Grammar School, and was then articled to his uncle, John Stokoe, at Hexham in Northumberland. He was admitted as a Solicitor in England in 1855, and after serving for some time in the office of the Under-Sheriff of Cornwall, he came out to India early in 1857 to the firm of Judge, Judge and Watkins. During the Mutiny he served for some time as a Trooper in the Bengal Yeomanry Cavalry. From 1862 to 1869 he was a member of the firm of Judge, Watkins and Stokoe, at which time he returned home and read for the Bar, being called at the Inner Temple in January 1872. He returned to Calcutta in January 1873, where he has been practising ever since.

Doctor JOSEPH HEINRICH CHARLES SCHULTEN, PH.D., Calcutta. Dr. Schulten is a native of the German Empire and was born at Muenster, Westphalia, on the 5th August 1865. He pursued his studies at the Universities of Muenster and Erlangen in Germany, which occupied five years of his life. For the next two years he served as Assistant to Professor Dr. J. Kœnig, and took his degree as Ph.D. at the University of Erlangen. Dr. Schulten arrived in India in the year 1892 in connection with Indigo,

Dr. J. H. C. SCHULTEN.

and was engaged in pursuits connected with this industry till 1901, when he opened an Analytical and Consulting Laboratory in Calcutta, at 12, Mission Row. The business growing rapidly, Dr. Schulten removed to larger premises at 11, Clive Row, Calcutta, the Mission Row Laboratory proving too small for the work entrusted to him. Three well-qualified assistants are employed under Dr. Schulten at Clive Row, two of these being fully qualified European analytical experts. Dr. Schulten carries on the business of an Analyst and Reporter on all commercial, agricultural and technical products, manures, etc. He gives expert evidence in legal cases and imports pure chemicals and scientific apparatus. He is a member of the "Deutsche Chemische Gesellschaft," Berlin (the German Chemical Society), also of the "Vereinigung Deutscher Nahrungsmittel Chemiker." He has published several valuable works, among them "Beitrage zur Kenntniss fester Loesungen," Erlangen, 1895; Series of Essays on Manures and their action, composition and use; also Essays on value of soil analysis and on technical questions.

Educational.

Revd. HUGH MITCHELL LEWIS, M.A., Head Master, Bishop Cotton School, Simla, was born in England in the year 1867 and received his education at Marlborough College and as a scholar of University College, Oxford. He obtained 2nd class Honours in the Mathematical final schools in 1890. After taking his degree, Mr. Lewis

Revd. H. M. LEWIS.

taught as an Assistant Master first at Walton Lodge, Cleveden, and afterwards at King's School, Braton, Somerset. He was appointed Head Master of Bishop Cotton School, Simla, in 1901, and coming to India in the same year, took up his duties, in which position he has completed his fifth year.

Mr. PHANI BHUSAN MUKERJI, B.Sc. (London), M.R.A.S., Inspector of Schools, Presidency Division, Bengal, was born in the year 1860 in Bengal, and after being partly educated at the Dacca College, completed his education at the University College, London. A brief record of his academic career may be of interest to friends of education in India; it is noteworthy from the honours he obtained whilst a student in London, he being Gold Medallist in Chemistry at University College, and also securing honours in Botany and Philosophy at the B.Sc. Examination of the London University. In addition to these he had in 1879 obtained a prize of £5 at the London Matriculation Examination, a distinction never before attained by a Bengali student, and in 1878 he had won the Gilchrist Scholarship of £100, tenable for five years; he also obtained two prizes in Philosophy and Logic at the University College, London, a record of scholastic successes which shew what can be attained by a native of Bengal if he be given proper facilities for work.

In 1883 Mr. Mukerji was appointed by the Secretary of State for India to the Superior Educational Service in India, formerly known as the Graded Educational Service, now amalgamated with the Indian Educational Service, he being the first Bengali gentleman thus appointed *direct* to this service from the India Office. In the same year (1883) Mr. Mukerji commenced his official duties, being posted to the Rajshahye College as Professor there, and in 1887 was transferred in the same capacity to the Hooghly College, where he also officiated as Principal for a short time. In 1897 his services were transferred to the Presidency College, Calcutta, as senior Professor of Chemistry; and in 1901 he took charge of the office of Inspector of Schools, Presidency Division, the appointment which he now holds. Besides the honours he obtained during his student's days,

Mr. P. B. MUKERJI.

he is a Member of the Royal Asiatic Society of Great Britain and Ireland, a Member of the Asiatic Society of Bengal, Fellow of the Calcutta University, and Honorary Representative of the League of the Empire and is also Secretary to the Central Text-Book Committee of Bengal. As a Professor he

devoted himself to the cause of the diffusion of the knowledge of Western Science (especially Chemistry) in Bengal; and as an Inspector of Schools much of his time has been spent on the introduction of the new scheme of vernacular education in the schools of his division. His former pupils are now useful and prominent members of society as lawyers, doctors, engineers, professors, school masters, and magistrates.

OAK GROVE E. I. R. HILL SCHOOLS (BOYS AND GIRLS'), situated at Jharipani, near Mussoorie. The Hill Schools are the outcome of a wish on the part of the Directors and other authorities of the East Indian Railway Company to help those employés who cannot afford to send their children to England, by enabling them to give them a sound modern school education, under, as nearly as possible, English conditions.

For this purpose the Oak Grove Estate, which comprises 193 acres of land, was purchased, and the first building erected thereon. This was opened on June 1st, 1888, under the Head Mastership of Mr. A. C. Chapman and was intended for boys and girls, the boys occupying one end of the building and the girls the other. The schools, however, grew so rapidly that in 1896 the adjoining estate of Jharipani was purchased and a new school erected thereon for girls only, the boys taking over the whole of the original building on Oak Grove. There was thus accommodation for about 240 boys in the old building, and about 150 girls in the new one, but it is possible, without inconvenience, to take 246 boys and 154 girls, and this has been done on several occasions. In spite, however, of the increased accommodation, the schools are not nearly large enough to take all the children who apply, as over 100 per year have, during the last few years, been refused admission. It is thus quite possible that both schools will have to be enlarged in the near future if they are to keep up their standard of usefulness.

A hospital containing eighteen beds was erected in 1897.

This building is situated about half-way between the two schools, and has a well-stocked dispensary, quarters for two nurses, two wards for infectious cases, and two large wards for ordinary cases. A native doctor also lives close by, and an European doctor (either the Civil Surgeon, or a retired R. A. M. C. officer) in Mussoorie is in charge.

A swimming-bath was added to the boys' school in 1900 and has been found very useful. Regular instruction is given in swimming and life-saving, and many certificates and medals have been gained from the Life Saving Society of Great Britain.

In 1906 a technical school was built near the boys' school where instruction in wood-work and iron-work will be given by a competent instructor at a very small fee. The object of this school is not to teach carpentering or blacksmithing but to train the hand and eye by a course of instruction in the use of tools and drawing. We believe this is the first attempt made in a European school to introduce this subject but, from the number of applications made by parents for their boys to receive instruction, it seems likely to become popular and, we hope, useful.

A bakery containing two large ovens, flour room, bread rooms, godowns, etc., was built some few years ago and has proved a great success. Flour is obtained from Delhi and the baking is in the hands of a native baker under the supervision of a European Sergeant.

It should not be supposed that the pupils are entirely the children of East Indian Railway employés. Some years ago arrangements were made by which children of the North-Western Railway employés could receive the benefits of the school and climate, and afterwards other railways were allowed to send children. The majority (rather over half) are children from the East Indian Railway; then follows very closely the North-Western Railway. Other railways send only a few, the O. & R. Railway probably being first with about fourteen.

The schools consist of three Departments, *viz.*, Primary, Middle, and High, teaching according to the Government Code of the United Provinces of Agra and Oudh. In addition to this, boys are prepared for Roorkee, the Survey Department, Medical College, and any other departmental examinations as may be from time to time required; and girls receive instruction in music according to the curriculum of the London Trinity College of Music, many of them having received certificates in all grades. Lately typewriting has been added to the many subjects taught; we hope shortly to give these girls a training in shorthand as well, so that, should the necessity arise, they will be able to earn their living as typists and shorthand writers.

Volunteering is a great feature in the boys' training and receives every encouragement from the Governors. There are two large companies, each over 80 strong, fully officered by members of the teaching staff, well drilled, and fairly good at shooting. The range is on the estate, but at present is only up to 500 yards: it is hoped to extend this very soon, so that the boys may get practice up to 700 or 800 yards.

It has always been the aim of the Governors and Head Master to make these schools as self-contained as possible; they have thus each got their own laundries and drying houses, and a few years ago a Post Office was added where letters, money orders, etc., are received and delivered. The latter has been very useful to the school and has paid the Postal authorities very handsomely.

To facilitate communication between the two schools, Hospital, and Head Master's Office, a simple telephonic system was inaugurated a few years ago, and since then the Head Master's office has also been connected with the Mussoorie system, it now being possible to talk to Mussoorie, Rajpur and Dehra. This is a great boon as, if necessary, a European doctor can be communicated with at any time of the day or night.

No notice about Oak Grove would be complete without reference to the water-supply. Strangers being taken round the school are

usually struck by the rows of brass taps in the lavatories and bathrooms, and the question is commonly asked, "Where do you get your water from?" The supply is brought from the Mossy Falls in high-pressure pipes, led into six large tanks, filtered, and then from them distributed all over the buildings. Till the earthquake in 1905 our daily supply was about 40,000 gallons; since then the largest spring has disappeared and the supply decreased considerably. Arrangements are now being made by which we may again have water in abundance.

The Head Master of these schools, Mr. A. C. Chapman, served his apprenticeship for five years at St. Luke's Schools, Chelsea, London, S.W., and was trained at All Saints' College, Culham, Oxon, during the years 1874-75. On leaving College, he became an assistant master at St. James's, Westminster, and afterwards under the London School Board. During this time he paid several visits to the best continental centres of education, especially those of Switzerland and Germany, and the knowledge thus gained has no doubt helped him in a most successful career as a teacher. America was also visited, but at that time there was very little to be learnt from the American system of education.

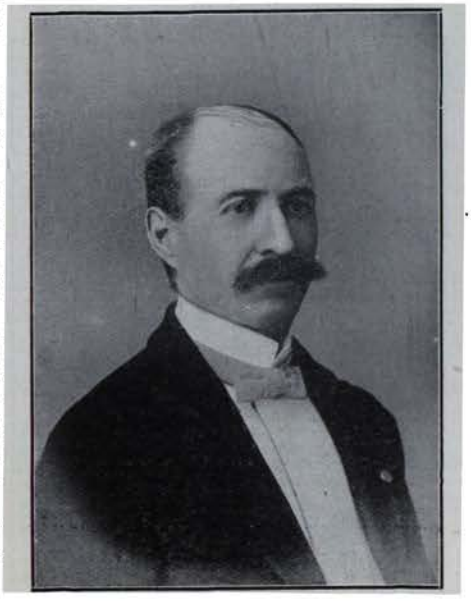
Mr. Chapman was engaged in London in 1885 by the Secretary of State to come out to India as Officiating Head Master of the Government Boarding School at Kurseong, and remained there till May 1888, when he was appointed Head Master of the new schools then being built at Mussoorie by the East Indian Railway Company. He arrived at Mussoorie on May 12th, 1888, and found the school half built and unfurnished. However, on June 1st a start was made with 30 boys and work was carried on under the greatest difficulties. During the next year the girls' school was opened, and the history of the schools since then is one of unqualified success.

During his career Mr. Chapman has been elected a Member of the College of Preceptors, a Fellow of the Royal Geographical Society, and of the Society of Arts.

He is a keen volunteer and has been efficient every year from January 1868, having served in Artillery, Engineers, Mounted Rifles, and Rifles, and passed through nearly all ranks from bugler to Major. He is in possession of the Long Service Medal, and the Volunteer Officers' Decoration and is now Officiating Commandant of the Mussoorie Volunteers.

Mrs. A. E. Chapman, the Head Mistress, served her apprenticeship at St. Mathew's, Denmark Hill, London, S.E., and was trained at the well-known Home and Colonial Training College, London, during the years 1877-78. She was afterwards an Assistant Mistress under the London School Board till she was engaged by the Secretary of State for India to come out here as Officiating Head Mistress of the Government Boarding School at Kurseong. In 1888 Mrs. Chapman was appointed Head Mistress of the Girls' Department of these schools, which post she has held ever since, and no small share of the success of Oak Grove is due to her energy and perseverance.

The PHILANDER SMITH COLLEGE, Naini Tal, as at present constituted, is the outcome of the amalgamation of the Philander Smith Institute at Mussoorie with the Oak Openings High School at Naini Tal. Both establishments having been carried on under the auspices of the Methodist Episcopal Church of America separately up to the commencement of 1905. At that date, after earnest consideration by a joint Committee representing both schools, it was thought advisable to amalgamate the institutions. The Philander Smith Institute was consequently transferred to Naini Tal and the amalgamated schools were carried on from the 1st February 1905 under the above title. The Philander Smith Institute was founded by the liberality of Mrs. Philander Smith of Oak Park, U. S. A., as a memorial to her husband. Oak Openings was established in the year 1883 by a missionary, Dr. Waugh, and reached the zenith of its popularity under the Revd. Frank Foote as Principal. The prosperity which marked the progress of both institutions separately gives promise of an even more successful career as a consequence of the amalgamation. The school premises are situated upon the Sherkadanda Hill, the highest estate in Naini Tal. This estate lies 1,200 feet above the Naini Tal Lake, which is itself some 7,300 feet above sea-level. The grounds cover about 40 acres and the land at the back of the school being unoccupied by houses, extends the actual range available for the exercise of the scholars. There are four principal buildings giving accommodation to the scholars and the staff. The first is a large two-storied mansion which accommodates the Head Master's family, the lady teachers, the matron, and contains the dormitories for the junior boys. The second is a three-storeyed building of considerable dimensions which provides rooms for the masters, dormitories for the senior boys and class rooms. A third building contains a large airy dining room, a fine library and a few more dormitories. Most of the class rooms are situated in a fourth building. There are playgrounds and tennis courts, the best in the station, in the fine grounds of the institution, also an up-to-date Gymnasium. The air of these hills is exceptionally favourable to European youths and the School has always had a clean bill of



Revd. F. S. DITTO.

health. Cases of a serious nature are extremely rare, only two having been recorded since 1899. The water-supply is obtained from the new Municipal Water Works. The Institution is to be congratulated on having as Principal, the Rev. Frank S. Ditto, a sound scholar with over twenty years' experience in

Mr. R. C. BUSHER.

teaching. He is ably aided by a Head Master of proved ability, R.C. Busher, M.A., and a staff of trained and experienced teachers from England and India. The school course embraces preparation for the Government High Standard, the Allahabad University Entrance and First Examination in Arts, Roorkee Engineering College Entrance (Engineer and upper Subordinate Classes), Superior and Fourth Grade Accounts, the Government of India Secretariat, Forests, Survey, Salt and Medical Examinations. Special attention is given to the preparation of students for entering the English and American Universities. Religious culture is attended to in a broadminded manner. No attempt is made to influence boys towards any particular denomination.

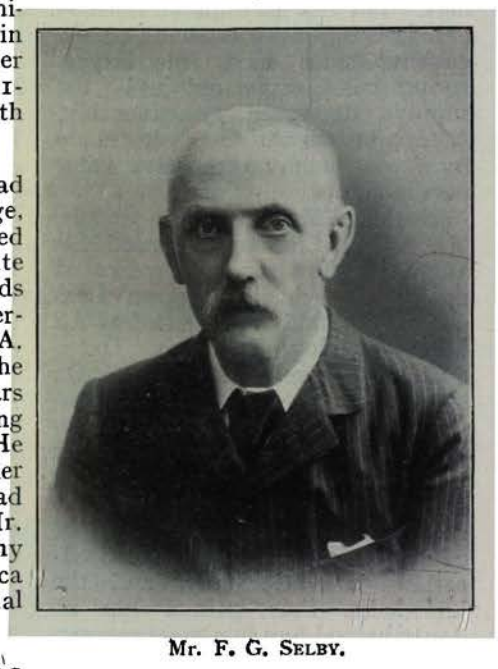
Revd. FRANK S. DITTO, M.A., S.T.B., Principal, Philander Smith College, Naini Tal, was born in Iowa, U.S.A., in the year 1865, and educated at Public Schools. He commenced his career by teaching in public schools and was for one year a student at the Agricultural College. His record is: Kansan Agricultural College, 1885-86; B. A., Washburn College, 1893; S.T.B., De Pauw School of Theology, 1895; University of Chicago, 1898; Instructor in Greek, De Pauw School of Theology, 1894-98; Instructor in Hebrew and English Bible, De Pauw University, 1898-1900; Professor in same, 1900; Principal, Philander Smith Institute, Mussoorie, 1901-04; Principal, Philander Smith College, Naini Tal, 1905.

Mr. R. C. BUSHER, M.A., Head Master, Philander Smith College, Naini Tal, was himself educated at the Philander Smith Institute when at Mussoorie. He afterwards proceeded to the Allahabad University where he obtained his B.A. degree in 1896, and attained the degree of Master of Arts two years afterwards, taking first place among all candidates of that year. He rejoined the institute as a teacher in 1893 and was appointed Head Master in 1899. During 1905 Mr. Busher toured England, Germany and the United States of America for the purpose of making a special study of school systems.

Prof. WILLIAM HASTINGS SHARP, M.A., Professor of Logic

Prof. WM. HASTINGS SHARP.

and Moral Philosophy, Elphinstone College, Bombay, was born at Masulipatam, in the Madras Presidency, in the year 1865. His school days were spent at Marlborough, and he joined Trinity College, Oxford, subsequently securing a 1st class in Classical Moderations and a 1st class in *Literæ Humaniores*. His first experience as a teacher was gained in England,



Mr. F. G. SELBY.

where he was a schoolmaster from 1888-1891. He was next selected to fill the chair of the Professor of Logic and Moral Philosophy in the Elphinstone College, Bombay, where he arrived in 1891 and began his work. He has acted as Principal of the Deccan College, Poona, in 1899 and 1902-3; and as Principal of the Elphinstone College in 1901 and 1905. Professor Sharp is a Fellow of the Bombay University, and has twice served on its Syndicate.

Mr. FRANCIS GUY SELBY, M.A., Principal of the Deccan College, Poona, was born in 1852. He was educated at Durham School and Wadham College, Oxford, taking his Degree in 1875. Two years later he came to India as Professor of Logic and Moral Philosophy at the Deccan College and has been connected with it all these years, except during the short period that he was Principal of the Rajkumar College, Kathiawar, reaching his present position

in 1890. Among the educated people and the students of the Presidency, Principal Selby is very well known for his outspoken nature, his devotion to duty, as a man of his word and a strict disciplinarian. Possessing these and many other sterling qualities of heart and head, it is but natural for him to expect his students to be imbued with the same. He has written his name in the history of the education of the youth of this Presidency, by the deep interest he takes in their intellectual, moral and physical well-being. Even those not directly connected with the Deccan College have had the benefit of his valuable advice, and if evidence were wanting in this direction, it is only necessary to refer to the address delivered by Principal Selby at the Annual Gathering in 1905 of the Students' Brotherhood, Bombay, which deals with many things of vital interest to students and is full of practical wisdom and information valuable to students.

ST. JOSEPH'S COLLEGE, Naini Tal, United Provinces, was established in the year 1889, and opened in that year by the then Lieutenant-Governor. The College was originally founded by the Capuchin Fathers, who carried it on till the year 1892, when it was handed over to the Irish Christian Brothers, a famous educational organisation, by the Right Reverend Dr. Pesci, O.C., Bishop of Allahabad. So great was the success of the transfer that the numbers of the pupils rapidly mounted up, and from the 51 who were at the establishment at the time when taken over by the Christian Brothers, till in 1905, no fewer than 271 scholars were on the rolls of the College. At present the number is 276. The College is now near the limit of its accommodation having quarters for 230 boarders and class rooms for 300 pupils including day scholars. The College building, which stands in its own fine grounds some 7 acres in extent, is situated on the Ayarapatta Hill opposite the famous Naini Tal Lake and adjoining Government House. The situation is a splendid one for health, as not being commanded by any other height in the neighbourhood it enjoys the health-giving breezes to the full, and the uninterrupted view from the College adds much to the charm of its situation. The site is about 1,000 feet above the surface of the Lake and 7,400 feet above sea-level.

Athletics are well looked after at St. Joseph's College, and the scholars possess football and hockey teams of great excellence. An extensive playground has been formed in the grounds including a double fives court and a gymnasium. As regards education, the Irish Christian Brothers' name is a guarantee of the soundness of the teaching. Of course, as in most Indian Educational establishments training for the Public Services forms a considerable part of the curriculum, which includes the First Arts, the Superior Grade Accounts, the Superior Police, both Departments of the Roorkee Engineering College, the Salt, Opium, Forest and Survey Departments, and all the Standards of the European School Code, including the High School. For the moral training of the youths at the College the Christian Brothers' reputation gives an absolute guarantee.

Brother Columban is the present Principal of the College, having taken over charge on the resignation of Brother Holland in July 1905. The staff consists of 11 Brothers, 4 Secular Masters, 1 Munshi, 1 Music Instructor and 2 Matrons.

ST. JOSEPH'S COLLEGE, North Point, Darjeeling, conducted by the Jesuit Fathers, is beautifully situated at an elevation of 6,507 feet and commands an extensive view of the snowy range of the Himalayas. It is about two miles from the railway station and about a mile out of town and was opened in 1892.

Rector and Prefect of Studies :—Revd. J. Meunier, S.J.
Prefect of Discipline :—Revd. L. Van Hoeck, S.J.
Procurator :—Revd. D. Laenen, S.J.
Medical Officer : — Major F. O'Kinealy, I.M.S., Civil Surgeon.
Lecturer on Controversy :—The Revd. The Rector.
Professor of English Literature and Prefect of Studies in the Special Department :—Revd. F. X. Crohan, S.J.
Professors of Mathematics:—Revd. Finton Peal, S.J.; and Revd. A. Van den Berg, S.J.
Professor of Physical Science and Chemistry :—Revd. V. deCampigneulles, S.J.
Professor of Languages, History and Geography:—Revd. D. Laenen, S.J.
Professor of Vernacular :—Munshi Asruf Hussain.
Seven form masters and five Subprefects of Discipline.
Professor of Drawing and Music :—Mr. G. A. Miller.
Primary Department :—Mr. E. FitzGerald in charge.

The course of studies is such as is usually followed in a public school, in preparation for recognised final school certificates and for various public examinations both at home and in India. Science, theoretical and practical, is taught in the Special Department; class drawing in the lower standards. A more advanced course of drawing is optional in the whole school at an extra charge. Music is also optional. It is encouraged also by the training of a brass band and of a string band both as useful complements of education and for school entertainments.

Young men preparing for home examinations (universities or engineering schools) and for Roorkee, the Opium Department, the N. I. Salt Department, etc., have special tuition in the subjects that need it.

There are about 200 boys in the school, divided into "Specials," High Department, Middle Department and Primary Department.

The extensive playgrounds allow of abundant provision for the *games* of cricket, football and hockey. There is room for all, and the games are compulsory. There are also tepid baths, two tennis courts, a gymnasium, billiard tables for the seniors, reading rooms and recreation rooms for indoor games in the two pavilions. The *Cadet Corps* is attached to the Northern Bengal Mounted Rifles. *Libraries* are provided for the various sections of students. There is also a properly fitted chemical and physical laboratory.

The *fees* are Rs. 40 per month for all the boys in the School Department. A fixed extra charge of Rs. 4 is added for such items as washing and repairs, medical

attendance, library and gymnasium. Entrance fee, Rs. 10; games and picnics fees, Rs. 15 per annum. The charges for music lessons and drawing are extra.

The Revd. J. Meunier, the present Rector, was appointed in May 1902. He was born in the province of Hainaut (Belgium) and joined the Society of Jesus at the age of 19. Having gone through the usual literary, scientific and philosophical courses of the Order, he came to India in 1888, and taught for five years Latin and Mathematics in the University Department at St. Xavier's College, Calcutta. He was a member of the Jesuit party that went to Sumatra in May 1901 to observe the eclipse of the sun.

The Special Department students, who have their own private room, are charged Rs. 55 monthly for board and tuition.

Father Henry Depelchin, S.J., is the founder of the institution. At the age of 65, broken in health from his long and arduous labours in India and South Africa and while enjoying a comparative rest in his native Belgium, the grand old man, as he was called, volunteered to come back to India in order to erect a college at Darjeeling. Work was begun before the end of 1888 and in February 1892, the little school which existed at Sunny Bank was removed to its present site at North Point. The school won rapidly a prominent position among the educational institutions of India. Beyond the contingent of boys who passed the Entrance Examination of the Calcutta University, and later on, the High School Examination under the European Code, and the London University Matriculation, some results may be mentioned: 3 of the students won admission into Coopers Hill, 11 into Roorkee, 8 into the Superior Police Force, 12 into the Opium Department, 5 into the N.I. Salt Department, 4 into the Superior Accounts Branch. Of these successful candidates, a good many occupied first or second place on the list. These repeated achievements forced North Point upon the public attention, and the number of the students on the rolls increased from 137 in 1892 to 222 in 1905.

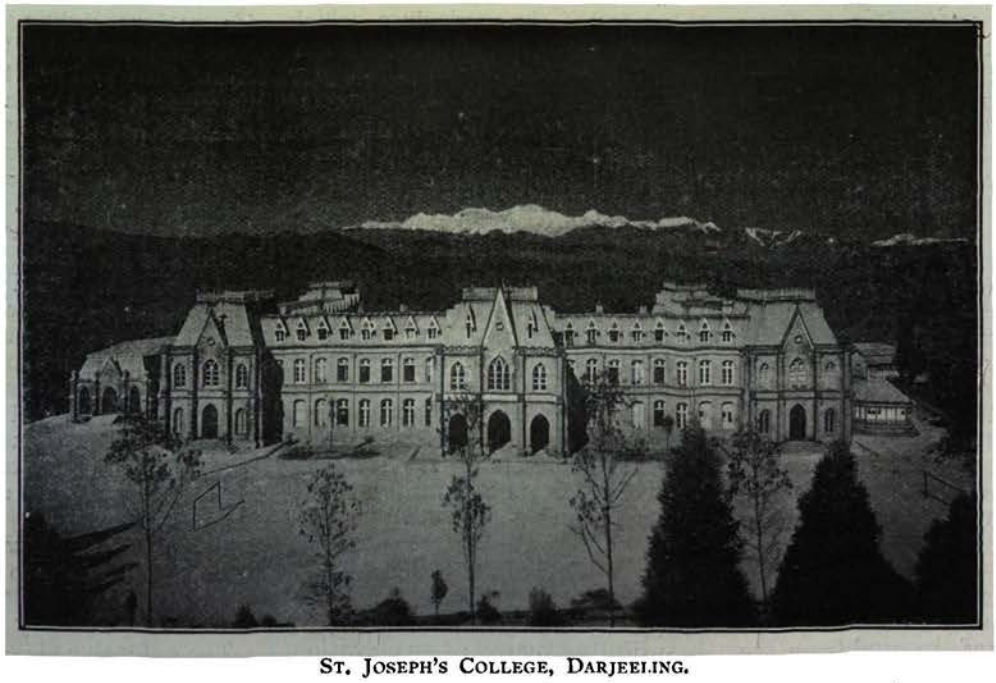
We read in the prospectus: "The object of the institution is to give European Catholic boys a sound education and the Fathers recognise as the most urgent and sacred part of their duty to cultivate the hearts and form the character of those committed to their care. A limited number of pupils of other Christian persuasions are also admitted." Although it is impossible to convey to an outsider a true and real idea of the spirit in which work is done at North Point, yet a short description of the general arrangements by which the object laid down in the prospectus is attained, will, we trust, be welcome to the reader.

The boys are divided into four sections, according to age and development:

I. *The Primary Department* for boys between 7 and 10 years of age, as a rule. They are under the care of a special master and they have a separate playground, dormitory, washing-room, dressing-room, study-room and refectory.

II. *The Middle Department* is recruited from the Primary and from new-comers from about 10 to 14 years of age. They have also their separate playground, study-room, washing-room, dressing-room and dormitory.

III. *The High Department* comprises the elder boys of the school department up to the High School class inclusive. It is only in the dining-room that they are with the lower division boys.



ST. JOSEPH'S COLLEGE, DARJEELING.

IV. *The Special Department* is meant for young men who have finished the ordinary course of secondary education and are preparing for some public examination either in India or at home. These young gentlemen have their own quarters, each one being provided with a private room. A full-size billiard table, an elegant and well-furnished reading-room are placed at their disposal.

The *Curriculum* of studies in the School Department is designed to include the subjects whose educational value is recognised. The study of English occupies the first place; Latin and French come next; then Mathematics; History and Geography. Elementary Drawing is taught in the lower classes, whilst a more advanced course is optional in the whole school, and taught at an extra charge. So is music. In the High Department, various branches are specialised according to the requirements of public examinations. A practical laboratory both for Chemistry and Physical Science is at the disposal of the students. This curriculum is an excellent preparation for the many boys who intend completing their studies at home. Within the years 1904 and 1905, no less than 30 students left North Point for England, and the success they have obtained is ample testimony to the soundness of their previous school work.

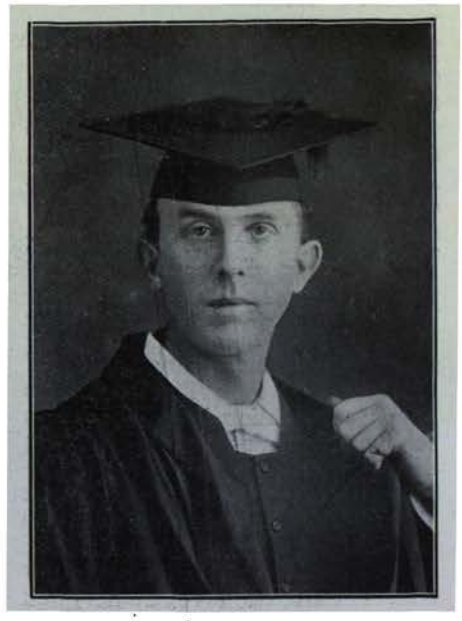
The Rector is the sole manager. He has however a board of advisers who are consulted in matters of importance. Under him there are the Procurator who has charge of the college finances, the Prefect of Discipline and the Prefect of Studies. The Prefect of Discipline is responsible for the observance of the rules, the management of the games, volunteering, and sundry arrangements. He is the main individual factor in that part of education which regards the formation of character. He works with a staff of sub-prefects who have charge of the boys out of school hours. The teaching Fathers are thus free to devote their time entirely to class matters.

Motto—"Sursum Corda."

Colours—Dark and Light Blue.

ST. PAUL'S SCHOOL, Darjeeling. This Public School is situated amid glorious scenery high upon the crest of the hill above Darjeeling about midway between that station and the Military Sanitarium at Jalapahar. The school buildings, which are very large, commodious, and massively built, occupy a rocky plateau which has been formed by cutting down the crest of the hill upon which the buildings are situated. A fine stretch of ground has thus been cleared, large enough for the practice of every description of athletic sports; in which the boys of the school excel. The discipline of the school is conducted on the English model and there is practically nothing to choose between the tone of St. Paul's, Darjeeling, and that of the great English Public Schools. The Head Master, the Revd. E. A. Newton, is an old Wykehamist, and he has infused the Winchester spirit among the English and Anglo-Indian lads who pursue their education under his tutorship. The staff of Masters who assist him in his important duties are all English Varsity men, and the whole system makes for turning out men with the stamp of English culture upon them. St. Paul's, Darjeeling, is indeed a great boon to the many English people settled in India who are indissolubly wedded to the English Public School system, and who would, in default of such an institution, be compelled to send away their sons to England. At St. Paul's, they obtain the particular advantages they insist upon without the necessity for long partings. The beginnings of St. Paul's School date back about three-quarters of a century when a training school was started for the Choristers of St. Paul's Cathedral, Calcutta. In the year 1863 the establishment was transferred to Darjeeling, to be out of the heat of the plains and in a climate suited to give full development to growing European lads. In the fresh cool air of the hills, under the shadow of Kinchinjungha and backed by Mount Everest, the school has grown till it has reached its present commanding position. The education at St. Paul's is classical on the English model, but with every attention paid to training boys to enter the various Departments of the Government services in India. The Head Master and Staff are all highly educated, college bred, English gentlemen, as competent to impart manners as instruction. As might be expected, the greatest care is taken to promote athletics, and the St. Paul's teams have highly distinguished themselves in football, cricket, hockey and other English national games. The Volunteer Cadet Corps of the school is well trained and efficient. India is full of successful men who owe their education and early training to St. Paul's School.

Revd. ERNEST ALFRED NEWTON, M.A. (Cantab.),



Revd. E. A. NEWTON.

Rector of St. Paul's School, Darjeeling, is the second son of J. B. Newton, Esq., of Sunnylands, St. Mary's Church, Torquay, who practised formerly in Liverpool as a partner in the firm of Messrs. Laces, Bird, Newton and Richardson, Solicitors. He was a scholar of Winchester College, and went up to King's College, Cambridge, for his University course. Took his degree of Bachelor of Arts in 1890. Gained Honours in Theology. Took his Master of Arts degree in 1894. He was Secretary of the Cambridge Union Society and President of Cambridge University Swimming Club. He was ordained Deacon in 1892 and Priest in 1893 in the Diocese of Oxford.

The Revd. Mr. Newton was appointed Curate of Aylesbury in 1892, continuing in this office till 1894, when he was appointed Secretary of the National Society, Northern Province, holding the post till he received the appointment of Assistant Secretary of the Church Army in 1896, which he relinquished when appointed Curate-in-Charge of Cookham, Berkshire. He held this cure till 1899 when he was selected by Bishop Welldon of Calcutta to take charge of St. Paul's School, Darjeeling. He came to India in the same year and has conducted the school with conspicuous success ever since. The Revd. Mr. Newton is the Author of the following Literary works: "The Story of the New Testament:" "The Story of the Old Testament:" "In Double Harness" (Dialogues): "Here and There" (Lyrics). He was Editor of the Granta, 1888-9, and is Editor of the *Calcutta Review* since 1905. He is married, his wife being Violet, youngest daughter of the late Revd. Canon Knowles, Principal, St. Bees Theological College, Cumberland.

WELLESLEY GIRLS' HIGH SCHOOL, Naini Tal. This Institution was founded by a body of Christian ladies in America for the purpose of affording high class scholastic training for the daughters of missionaries and Europeans generally in India. The establishment stands on an estate of seventeen acres on the west side of the Naini Tal Lake, about equidistant from either end. The situation is extremely well sheltered, and the spot is a very favourable one for the needs of such a school. The main building of the school is a large and imposing edifice, specially adapted to meet the requirements of a modern school for young ladies. There is also a school house 75 feet by 40 feet, a commodious music house, and an infirmary with large airy rooms. The study hall and class rooms are furnished with the latest pattern of desks. A studio is provided, lighted by a skylight, in which are contained copies, models and all else to render it complete. Twelve practice rooms and a concert room are provided in the music house. The concert room is furnished with two pianos for practising duets, an American organ and a clavier. In all, there are 21 instruments for the use of the pupils. The dormitories in the school buildings are airy and well lighted. Individual bathing rooms adjoin the dressing rooms. The dining hall can seat one hundred and sixty with ease. The present Principal, Miss Easton, succeeded Miss Knowles who was originally sent out from America to start the institution and who carried on the school to success in a phenomenally short time during her incumbency. Before taking up her present duties Miss Easton had most successfully conducted a similar school at Cawnpore. Under Miss Easton's care Wellesley has taken front rank among similar institutions. Miss Easton has long had the assistance of Miss Sellers, B.A., as Vice-Principal, who is a teacher of exceptional ability and attainments. The staff is made of trained teachers from England and America. None but certificated teachers are employed. The school is regularly inspected by officers of the Government Educational Department who have uniformly been complimentary in their reports. As regards health, the school has a very satisfactory record; the medical officer reports that Wellesley gives very little trouble. Religious instruction is carefully attended to. A course of Scripture prescribed by the Missionary Committee is taught in every standard and at the close of the year the pupils are examined by the Committee.

Mr. WILLIAM HENRY ARDEN WOOD, M.A., F.C.S., F.R.G.S., Principal of La Martinière College, Calcutta, eldest son of the Revd. J. Wood, M.A. (Oxon.), was born in England in 1858. He was educated at Manchester Grammar School, whence he proceeded with a Brackenbury Scholarship to Christ Church, Oxford, at which College he had previously won an open Junior Studentship. After taking his degree in the Honour School of Natural Science in 1881, Mr. Wood was for a time Private Secretary to the Hon'ble Auberon Herbert, formerly M.P. for Nottingham, and was subsequently Assistant Master in Grantham Grammar School. In 1885 Mr. Wood came out to India as Senior Assistant Master in La Martinière College, and in 1889 he became Principal of Victoria College, Cooch Behar. In 1892 Mr. Wood returned to La Martinière as Principal.

La Martinière is one of the oldest endowed schools for boys of European descent in India, and old Martinière boys are to be found occupying important and responsible positions, not only in India, but in most other parts of the world. The success of the school in games is well known. During his tenure of office at La Martinière Mr. Wood has reorganised the educational system of the school, and by introducing the Cambridge University Local Examinations has brought its work into touch with work of the same character in England. Mr. Wood has taken an active part in work connected with University education. During the last

Mr. W. H. Arden Wood.

twenty years he has examined frequently for Calcutta and the Punjab Universities. He is a Fellow of the Calcutta University, and was elected a member of the Provisional Syndicate appointed after the passing of the Indian Universities Act. He was also one of the original promoters of the Calcutta University Teachers' Association, which now numbers among its members the professorial staff of the leading University Colleges, and was its first President. Mr. Wood has devoted much attention to geography as a science, and desires to see the subject take its proper place in University education in India, as it is now doing in England and America. He has published "A Short Geography of Bengal" (G. Bell and Sons, London), and "A General Geography for Schools in India" (Macmillan & Co.), which has been several times reprinted.

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The

Bengal Chamber of Commerce.

ROYAL EXCHANGE, CALCUTTA.

THE BENGAL CHAMBER OF COMMERCE.

THE HISTORY OF A GREAT INSTITUTION.

THE story of the growth of Calcutta and the great expansion of its business is a fascinating one. The last hundred years have witnessed the transformation of the trading station, established by stubborn Job Charnock, into a flourishing city that now controls the vast trade of a huge province and has developed into the capital of India. Every year has seen the resources of Bengal increase and multiply, and the commerce of Calcutta grow in volume and importance. The ever-mounting trade figures of the last fifty years are eloquent of the enterprise of Calcutta merchants and the rich resources that lie behind the prosperity of the city.

The period when the business interests in Calcutta first combined for organization dates back to 1838, when what was styled the "Calcutta Chamber of Commerce" was established. Very little is known of this Association. There is, however, on record a letter, dated December 1833, addressed to the "Merchants of Calcutta," calling on them to state their views with regard to a proposal to compile a half-yearly statement of the imports into Calcutta. It is very possibly this letter which inspired the creation of the Calcutta Chamber of Commerce, which was destined to merge after a few years into the Bengal Chamber of Commerce. Twenty-five firms subscribed to this letter, and only one of these firms—Messrs. Gillanders, Arbuthnot & Co.—exists to-day under the name it then bore. Messrs. Mackenzie, Lyall & Co., though not among the signatories of

the letter, also carry on business to-day under the same name and style as in 1833. Although there is no written record of the work done by the Calcutta Chamber of Commerce in its nineteen years of existence, it must have clearly brought home to the merchants of Calcutta the practical value of organization.

In 1853 the Bengal Chamber of Commerce came into existence, and the Calcutta Chamber ceased to be, after doing its work in serving as the foundation for the more vigorous institution.

When the Bengal Chamber of Commerce was founded in 1853 it had a membership roll of 86 Calcutta members and eighteen mofussil members. The Committee that was charged with the construction of the new Chamber was composed of the following gentlemen:—Mr. J. J. Mackenzie, of Messrs. Mackillop Stewart & Co.; Mr. W. W. Kettlewell, of Messrs. Kettlewell, Drabble & Co. (now Messrs. Kettlewell, Bullen & Co.); and Mr. D. Mackinlay, of Messrs. Gillanders, Arbuthnot & Co. At the special meeting on 14th May 1853, when the Chamber finally took shape, a special vote of thanks was accorded to Mr. W. W. Kettlewell for his work in connection with the project. The following gentlemen constituted the first Committee of the Chamber:—Mr. J. J. Mackenzie, President; Mr. D. Mackinlay, Vice-President; Mr. David Cowie, Mr. J. S. Elliott, Mr. W. W. Kettlewell, Mr. C. B. Skinner, and Mr. J. P. Mackellyan.

The Presidents.

The list of Presidents who have held office since Mr. J. J. Mackenzie first presided over the deliberations of the Chamber make a distinguished roll.

Mr. Mackenzie held office from the 1st May 1853 to May 1855. He was succeeded by Mr. David Cowie, who held office for three years, from 1855 to 1858. Mr. D. Mackinlay, of Messrs. Gillanders, Arbuthnot & Co., held the position for two years, from 1858 to 1860, and he was succeeded by Mr. J. N. Bullen, of Messrs. Kettlewell, Bullen, who acted as President from 1860 to 1861, from 1862 to 1863, and from May 1864 to May 1866. Among other leading merchants who have held the position of President are:—The late Mr. F. Schiller, of Messrs. Borradaile, Schiller & Co., who was President in 1866. The late Mr. R. J. Bullen Smith, C.S.I., of Messrs. Jardine, Skinner & Co.; the late Mr. George Yule of Messrs. Andrew Yule & Co.; the late Mr. J. J. J. Keswick, of Messrs. Jardine, Skinner & Co.; Mr. H. B. H. Turner, C.I.E., of Messrs. Turner, Morrison & Co.; the late Mr. Robert Steel, C.S.I., of Messrs. R. Steel & Co.; Sir Alexander Wilson, of Messrs. Jardine, Skinner & Co.; Sir James L. Mackay, G.C.M.G., K.C.I.E., of Messrs. Mackinnon, Mackenzie & Co.; Sir Patrick Playfair, KT., C.I.E., of Messrs. Barry & Co.; Sir Allan Arthur, KT., of Messrs. Ewing & Co.; Sir Montague Turner, KT., of Messrs. Mackinnon, Mackenzie & Co.; the Hon Mr. E. Cable, of Messrs. Bird & Co., and the present President, the Hon. Mr. A. A. Apcar, of Messrs. Apcar & Co.

The first Secretary of the Chamber was Mr. T. M. Robinson, who only however held office for a year, and he was succeeded in May 1854 by Mr. H. W. I. Wood, who held the appointment for thirty years, retiring in 1884. Mr. Wood was succeeded by Mr. J. F. Rutherford, who after only a few months' service was unfortunately removed by death. Mr. S. E. J. Clarke was then appointed, and he remained as Secretary of the Chamber for eleven and a half years until his death in January 1897. Mr. Clarke's connection with the Chamber will long be remembered as a fruitful one. Great activity was then displayed in all directions, and the influence of the Chamber was widely felt.

In 1897 the present Secretary, Mr. W. Parsons, who had been Assistant Secretary for the previous five years, was appointed, and the scope of his work is sufficiently indicated by the many important questions that the Chamber has of late years taken up and the splendid results achieved for the commercial community.

The Work of the Chamber.

In reviewing the work of an important institution like the Bengal Chamber of Commerce, it is of course only possible to give a mere outline and only to indicate the very great influence it has exerted on the fortunes of the Province. Lord Curzon, himself a wonderful organizer, was not slow to recognize the great work done by the Committee, and he gave an idea of the value he attached to its influence at the memorable dinner held on the 12th February 1903 to celebrate the Fiftieth Anniversary of the Chamber of Commerce.

During the course of the Viceroy's speech, probably the most business-like and inspiring oration from the commercial point of view ever delivered by an Indian Viceroy—he took occasion to outline the many reforms that he contemplated, particularly those touching on commercial matters.

He then took the country into his confidence with regard to many big schemes, for the commercial advancement of India, schemes that are now being realised. And, in making the occasion the medium for his pronouncements, he paid a well-deserved compliment to the influence and importance of the Chamber. He referred to the creation of a Department of Commerce, which has since been firmly established, and the great help afforded him by the Chamber of Commerce in the matter. The Viceroy was insistent on the fact that the Government machine needed the business element to vitalise it: "After an experience of four years in this country, I do not hesitate to say that we are trying to run this Empire with a staff that would be considered inadequate in a second-class European kingdom. We came here as traders, we developed into conquerors, and long since we were turned into administrators. But now the Government of India are expected to be much more. We are required to be up to date and to know everything about agriculture, commerce, emigration, labour, shipping, customs, the application of science to every form of production, the secrets of coal, iron, steel, salt, oil, tea, cotton, indigo and jute. The fact is that we have not yet expanded to the needs of the new situation. You cannot in a moment take a race of specially trained administrators and expect them to develop the capacities of the merchant. Gradually, but surely, we shall make things right. I am the last man to propose the multiplication of posts or the creation of sinecures. We must have special departments and special men over them to deal with special jobs, instead of allowing technical subjects to be dealt with at the end of a day's work by a tired-out civilian."

For this hearty appreciation of the business needs of the community, Lord Curzon was heartily applauded. "Already," he went on to say, "in my time we have done a good deal in this respect. We have placed education and archæology under expert heads. We

have brought out mining experts to inspect our mines. We have imported a Government architect to purify our egregious taste. We have created a Department of Agriculture with an Inspector-General at its head, and we now propose, with the aid of the munificent donation that I recently received from a wealthy American gentleman, Mr. Phipps, to unify in one place all the various departments of scientific investigation in connection with agriculture."

The creation of the Pusa Agricultural Station, with its expert staff and its splendid machinery for conducting agricultural experiments, has since been completed, and its value to the commercial community is beyond all doubt. One more matter in which the commercial world is under a debt of gratitude to Lord Curzon is the creation of the Railway Board. He referred to this project also at the Anniversary Banquet: "I have long had my eye on Railways, and it has always been my hope, before I leave India, to do something to introduce a more commercial and a less departmental element into their administration." There can be no question that the Railway Board, composed as it is of practical and experienced men, will bring Indian Railways more into touch with the needs of the community.

Although Lord Curzon in his historical speech dealt with the broadest aspects of commercial life, it is significant that he dwelt at length on the needs of Calcutta itself. It must not be forgotten, and the Bengal Chamber of Commerce have shown themselves alive to the matter, that Calcutta is the port of a great Province, and that as commerce progresses, the city in all its aspects must be made adequate. An unclean city, of evil repute among the nations, would have a terribly bad effect on trade, and it is for this, if for no higher reason, that the Bengal Chamber of Commerce has devoted so much attention to the question of improving the city. In the speech made by Lord Curzon he eloquently pictured the Calcutta of the future, while touching realistically on the imperfections of the present city. "There is," he said, "the vast and unsettled problem of the interior of the city, the congested areas that skulk behind a fringe of palaces, the huge palpitating slums. What are we going to do with them?" Then in answer to his query he outlined the objects of the Calcutta Improvement Scheme. So wonderfully did the possibilities of Calcutta appeal to the imagination of Lord Curzon that he said: "sometimes, when I contemplate the possibilities, the enormous possibilities, of this place, I almost feel—you may regard it as a strange ambition—as if when I laid down the post of Viceroy I should like to become Chairman of the Calcutta Corporation. . . . . Perhaps, if I were Chairman of the Municipality, I should exact rather large conditions. I should require ten years of office, sufficient cash, and a free hand. Give me those commodities and I would undertake to make this city the pride of Asia and a model of the Eastern World. I would open out all your crowded quarters and slums. I would employ electricity as the universal illuminant. I would have a splendid service of river steamboats, for it is astonishing to me how little use is made of the river by the ordinary residents of Calcutta. I would have all the quarters of the town connected by a service of suburban railways or electric trams. .....Long after I have gone I shall study the records of your proceedings and shall never cease to regard it as a pride that for a number of the hardest working years of my life I was a citizen and a son of this great imperial city."

It is needless to say that this inspiring speech of Lord Curzon's made a great impression. It brought vividly before people the condition and the possibilities of Calcutta. The Chamber of Commerce has always been keenly aware of the necessity of improving the city, but this direct appeal went far to stimulate interest in those who were perhaps somewhat indifferent to the physical needs of the city. The value of the Chamber of Commerce to the community, apart from its unique position as the Parliament of Commerce, rests on its vigilance for the public interest. It has served faithfully in this direction in keeping the necessity for the improvement of Calcutta before the Government and people. The special commercial problems of the city are the condition of the river and wharves, the railways and railway stations, and the state of the communications generally. It is a vital matter though that the health of the city should be guarded. Plague has for years claimed its thousands of victims. Besides hampering trade with foreign countries, the terrible mortality has affected disastrously the labour market. The gravity of these contingencies has not been lost on the Chamber of Commerce, and it has done valuable work in urging preventive and special measures against the spread of the disease. Its powerful voice has been raised again and again in protest with great effect.

The Chamber has earned the gratitude of the community not only for laying public needs before the Government, but by its dignified defence of public interests. Not only in mercantile matters has it proved itself the champion of the public welfare, but in political and imperial affairs it has stood out strongly and made the weight of its influence felt. It would be difficult to give in detail the many occasions when it has conspicuously opposed or supported the Government, but its record has been a triumphant one, until the Bengal Chamber of Commerce has come to be recognized as a very considerable factor in the government of the country. When the enormous interests involved are considered and the great strides that the business of the Province has made, this is hardly to be wondered at. When the merchants of Calcutta were first impressed with the utility of combination, the trade of Calcutta was insignificant compared with what it is to-day. Tea was almost unknown, and when the Chamber was founded, the great jute industry of Bengal was just struggling into existence, and the value of jute exported did not amount to more than 12 lakhs of rupees a year. Bengal has now thirty-four mills with an estimated annual output valued at about 12 crores of rupees. The coal industry during the last fifty years has come into existence and assumed big proportions, and on all sides the industrial activity has developed and increased enormously. It is difficult to believe that fifty years ago India had but one short line of railway, twenty miles in length, open for traffic. There are now about twenty-six thousand miles open. The tonnage of ships arriving in Calcutta in fifty years has risen from 411,715 tons a year to 4,533,648 tons.

Retrospect.

When scanning the principal aim of the Bengal Chamber of Commerce it is significant to learn that the first subject which attracted the attention of the Chamber, as far back as 1853, was the state of the River Hughli. In the first of a long series of weighty and important letters, a communication was addressed to the Government of Bengal, dated 27th May 1833, in which the danger to which navigation was subjected was forcibly pointed out. So bad were affairs then that it was advanced that the dangerous state of navigation threatened "at no distant period to render access to the Port of Calcutta altogether impracticable for any vessels but those of the smallest tonnage." How effective has been the watchfulness of the Chamber backed by the strenuous and successful efforts of the Port Trust is evidenced by the fact that now great steamers drawing over 27 feet daily negotiate the difficult passage of the Hughli.

In the very first year of its existence the Committee of the Chamber prepared a petition for presentation to the Imperial Parliament outlining the needs of the community and praying for a renewal of the Honourable East India Company's Charter;—

The needs of India fifty years ago may be summed up in this petition;—

(1) The general defective state of the internal communications of India.

(2) The imperfect state of the existing roads, rivers and canals.

(3) The great want of railways and the long delay in their construction.

(4) The high charges for postage, and the slowness of the Dâk.

(5) The heavy duty on salt.

(6) The delay in the administration of justice in the Mofussil Courts.

(7) The great expense of law and receipt stamps.

(8) The imperfect and undigested state of the law as laid down in the Company's regulations.

(9) The inconsistency of the Usury Laws.

(10) The uncertainty of Land Tenures.

This may be taken as a fairly comprehensive sketch of the needs of the civil community of Bengal in the days of "John Company." But the petition itself was never forwarded to England. Owing to the rapidity with which the India Bill was pushed in both Houses of Parliment, it was considered doubtful whether it would arrive in time for consideration.

In 1857 came the tragedy of the Mutiny, and during that fateful year the Chamber of Commerce addressed a petition to Parliament in the following terms: "That Parliament will adopt such measures as may be necessary for removing the Government of this country from the East India Company and substituting in its place the direct Government of Her Majesty the Queen, with an open Legislative Council suitable to the requirements of the country and compatible with British supremacy, and Queen's Courts presided over by trained lawyers, with the English language as official Court language." This memorial had been forwarded to Parliament before being submitted to the members of the Chamber, and the Committee of the Chamber were asked to support it. The Committee, however, considering the action of the signatories to the memorial to be unconstitutional, refused to support it, and as a Resolution was carried at a special general meeting of members, in favour of endorsing it, the Committee resigned as a protest. Almost in all respects events justified the memorial when at the close of the Mutiny the British Government took over direct control of India from the hands of the East India Company.

The Royal Exchange.

It was at this period that the project of establishing a commercial Exchange in Calcutta was mooted. At a general meeting of the Chamber on the 30th November 1857, the scheme was inaugurated. One hundred and thirty-eight subscribers were at once registered, and in May 1858 a special meeting was held to frame rules and regulations, and on the 1st July of the same year the Exchange was opened. Though it was directly inspired by the Chamber of Commerce it was managed independently by a Committee. In 1867 it was unanimously decided that the name of the Exchange should be altered to the Broker's Exchange. It was in 1881 that the scheme for a Mercantile Exchange took active shape, and the matter was discussed at length by the Chamber of Commerce. But it was not until 1893, when Sir James L. Mackay was President of the Chamber of Commerce that the project was actually initiated and by special permission of the late Queen Victoria it was called the "Royal Exchange."

It was necessary in order to carry out this scheme that the Chamber should be incorporated under section 26 of the Indian Companies Act, 1882, and it purchased by the issue of a Debenture Loan, the premises of the Oriental Bank Corporation which are now known as the Royal Exchange Building. In 1894 the opening was celebrated by a grand banquet to the Marquis of Lansdowne, the retiring Viceroy. The Royal Exchange now has a roll of over 600 members, and it has proved of the utmost value to the mercantile community of Calcutta. Tradition marks out the building as having once been the residence of Sir Philip Francis, the erratic statesman whose name is perhaps best known in connection with the duel which he fought at Alipur with the Governor-General, Warren Hastings, and also with his supposed authorship of the "Letters of Junius."

An interesting relic of the Mutiny is still preserved in the shape of what is known as the Mutiny Gate, which was placed on the upper staircase in the troubled times of 1857 by the Manager of the Oriental Bank Corporation, which then occupied the building, as a possible safeguard against any attack which might be made on the Bank. Calcutta, however, as is well known, escaped the trouble which descended on so many other cities, and it is not recorded that the gate had ever to be closed. It remains, however, as a reminder of the great struggle in which the fate and future of India were hanging in the balance.

Organization.

The Chamber of Commerce since its inception has fully learned the value of organization. Every important branch of industry in Bengal is now controlled by its own special

Association, and these are linked to the Bengal Chamber of Commerce in a most effective manner.

Among these associations which have done such useful and important work may be mentioned the Indian Tea Association, the Indian Jute Mills Association, the Calcutta Baled Jute Association, the Calcutta Import Trade Association, the Indian Mining Association, the Calcutta Wheat and Seed Trade Association, the Calcutta Fire Insurance Agents' Association and the Calcutta Marine Insurance Agents' Association.

A very important branch of the work of the Chamber of Commerce is the Tribunal of Arbitration. It is largely resorted to by the mercantile community for the settlement of disputes. In one year alone no less than 342 references were dealt with by the Chamber, and it is noteworthy as indicating the wide influence of the Chamber, that the majority of the disputes were those in which members were not interested personally. The facilities offered by the Chamber and the speedy and just settlements have attracted people outside of the Chamber to a marked degree. The reputation that the Chamber enjoys could hardly be more fittingly evidenced than in this Department.

Another important branch of work that is of utmost public utility is the Licensed Measurers Department controlled by the Chamber. This Department undertakes the measurement and weighment of all the export cargo in the port, and its certificates are accepted in all parts of the world. A large number of Europeans and Eurasians are employed in this work, and every year sees an increase in its usefulness.

Rules and Objects of the Chamber.

It may be well to give here briefly the chief objects of the Bengal Chamber of Commerce as set out in the Articles of Association:—

(1) To promote and protect the trade, commerce and manufactures of India and in particular the trade, commerce, and manufactures of Calcutta.

(2) To watch over and protect the general commercial interests of India or any part thereof, and the interests of persons engaged in trade, commerce or manufacture in India, and in particular Calcutta.

(3) To consider all questions connected with trade, commerce and manufactures.

(4) To collect and circulate statistics and other information relating to trade, commerce and manufactures.

(5) To promote or oppose legislation and other measures affecting trade, commerce or manufactures.

(6) To adjust controversies between members of the Association.

(7) To arbitrate in the settlement of disputes arising out of commercial transactions between parties willing or agreeing to abide by the judgment and decision of the Association.

(8) To establish just and equitable principles in trade.

(9) To form a code or codes of practice to facilitate transaction of business.

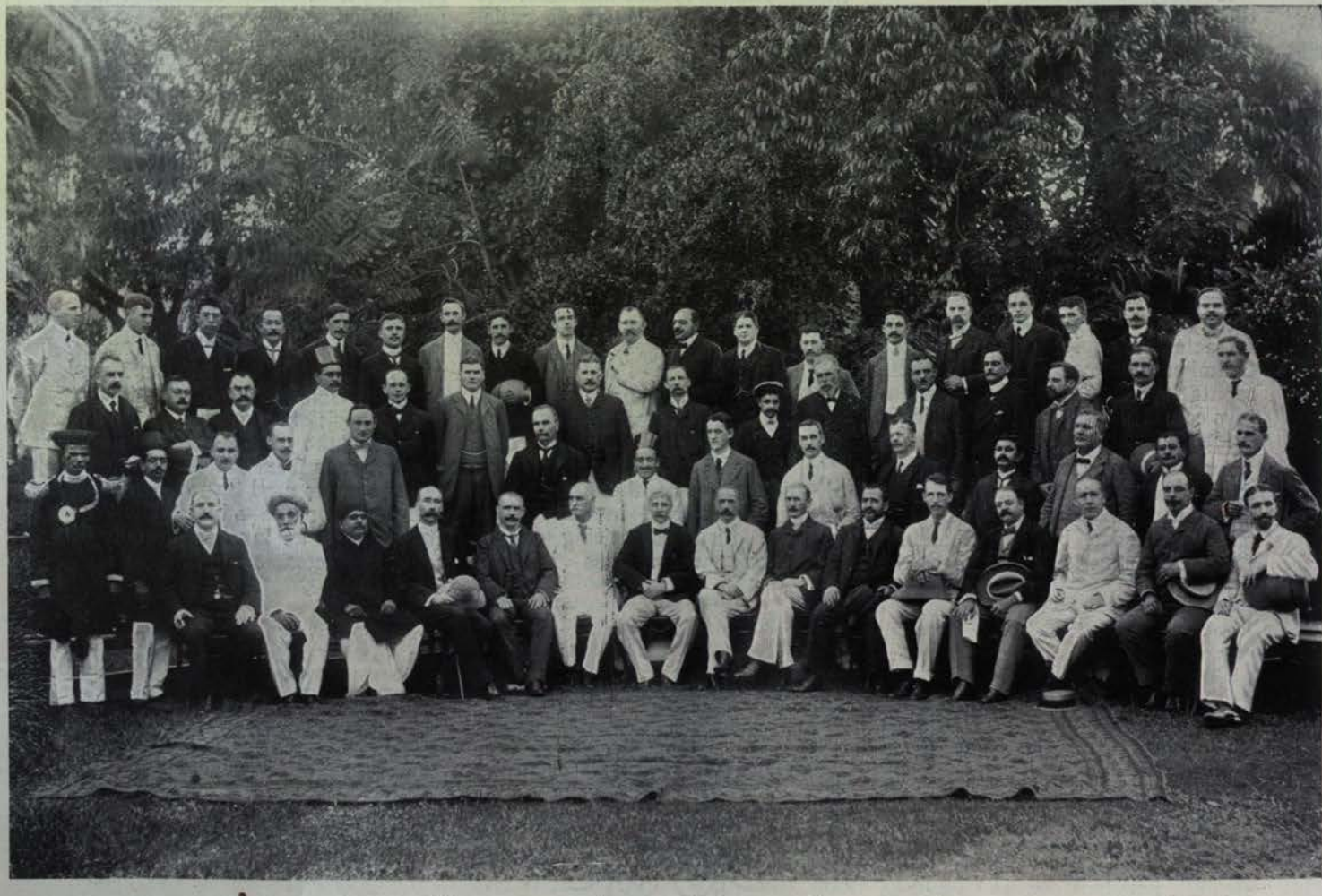
(10) To maintain uniformity in rules, regulations and usages of trade.

(11) To communicate with Chambers of Commerce and other mercantile and public bodies throughout the world, and concert and promote measures for the protection of trade, commerce and persons engaged therein.

The Committees and Sub-Committees of the Chamber of Commerce, cover every phase of commercial activity in Bengal and touch every interest. It is eloquent of the usefulness and importance of the parent association that so many flourishing institutions should have sprung from it. Efficiency has been the key-note of the success of the Bengal Chamber of Commerce. A courage and determination in expressing its views has marked its career from the first, and the great and successful work of its Presidents, Committee, Members and Officials is reflected in the unique position of influence that it holds, and the respect and attention it commands from the Government. It has always used its power wisely and well for the advancement of the country at large, especially in relation to commercial interests.

Bombay Chamber of Commerce.

HISTORY records the fact that the Bombay Chamber of Commerce was established on the 22nd September 1836, under the auspices of Sir Robert Grant, who was then Governor of Bombay.



MEMBERS OF THE BOMBAY CHAMBER OF COMMERCE.

The European mercantile firms that were in existence at the time, and which lent their support to the establishment of the Chamber, were few in number, among them being Messrs. Skinner & Co., William Nicol & Co., Duncan, Gill & Co., Leckie & Co., Gisborne, Menzies & Co., Ritchie, Steuart & Co., MacVicar, Burn & Co., McGregor Brownrigg & Co., and Firth & Co.

These firms met in solemn conclave and formulated certain rules and regulations which, in the main, are in existence at the present day. Regarding the principal functions of the Chamber, the rules say:—

"That the object and duties of the Chamber shall be to encourage a friendly feeling and unanimity among commercial men on all subjects involving their common good; to promote and protect the general mercantile interests of this Presidency, to collect and classify information on all matters of general mercantile interest; to obtain the removal, as far as such a Society can, of all acknowledged grievances; to receive and decide references on matters of usage and custom in dispute, recording such decisions for further guidance, and by this

and other means, to form a code of practice for simplifying and facilitating business; to communicate with the public authorities, with similar associations in other places, and with individuals, on all subjects of general mercantile interest, and to arbitrate between parties wlling to refer to and abide by the judgment of the Chamber."

In the introduction to this chapter, it is stated that the Chamber was established under the auspices of Sir Robert Grant. The credit is really due to Mr. John Skinner, whose portrait adorns the rooms of the Chamber, with the following inscription:

"John Skinner, Esq., whose exertions in establishing the Bombay Chamber of Commerce, and subsequently in furthering the objects for which the association was formed have been so eminently useful to the members."

Mr. Skinner was Chairman of the Chamber during the years 1836-37, and again in 1839-40. Below is a list of the names of the gentlemen who held office in the following years up to the present time :—M. T. Brownrigg, 1837-38; H. G. Gordon, 1838-39; T. R. Richmond, 1840-41; C. B. Skinner, 1841-42; S. D. Murray, 1842-43; J. Wright and E. Lyon, 1843-44; T. Cardwell, 1844-45; J. Smith, 1845-46; W. Graham, 1846-47; John Parsons, 1847-48; A. J. Latham, 1848-49; Robert Strong, 1849-50; W. S. Grey, 1850-51; John Parsons, 1851-52; A. H. Campbell, 1852-53; H. B. Gilmour, 1853-54; James Graham, 1854-55; W. F. Hunter, 1855-56; A. T. Binny and H. B. Gilmour, 1856-57; John Fleming, 1857-58; Robert Ryrie, 1858-59; H. D. Cartwright and Henry Scott, 1859-60; Andrew Grant, George Hamilton and George Lord, 1860-61; James N. Fleming and Michael H. Scott, 1861-62; Robert Hannay and Alexander Brown, 1862-63; Andrew Grant, 1863-64; A. C. Gumpert and Alexander Stewart, 1864-65; A. J. Hunter, 1865-66; W. Christian, A. J. Hunter and Alexander Brown, 1866-67; J. Foggo, 1867-68; Hamilton Maxwell, 1868-69; H. E. Astley and D. Graham, 1869-70; A. D. Grant, 1870-71; W. G. Hall, 1871-72; J. K. Bythell, 1872-73; H. E. Bright and E. Lord, 1873-74; D. Watson, 1874-75; J. A. Forbes, 1875-76; G. P. Henry and Donald Graham, 1876-77; Walter Lang, 1877-78; M. Mowat, 1878-79; C. Macdonald, 1879-80; J. N. Graham, 1880-81; E. Comber and W. M. Macaulay, 1881-82; James Thorburn, 1882-83; Sir F. Forbes Adam, *Kt.*, C.I.E., 1883-84, 1884-85, 1886, 1887, 1888, 1889; A. F. Beaufort, 1890; L. R. W. Forrest, 1890-92; J. L. Symons, 1892; R. S. Campbell, 1893; W. R. Macdonald, 1893, 1894, 1895; A. F. Beaufort, 1896; A. Abercrombie, 1897; R. H. Macaulay, 1898; A. Abercrombie, 1899; William Greaves, 1900, 1901, 1902; J. M. Dick, 1902-03; C. H. Armstrong, 1904-05.

Statistical Information.

The Chamber publishes a series of returns which show the course of trade from day to day, both in imports and exports. The "*Daily Arrival Return*," as its title indicates, gives the receipts into Bombay, by rail and sea, of cotton, wheat, and seeds from the various stations and seaports serving the Agricultural Districts. These returns are issued every morning to the Members of the Chamber and other subscribers, and give the receipts for the 24 hours ending at 6 P.M. the previous day. The great utility of the return is generally recognised and appreciated by the commercial community of Bombay, showing, as it does, in a distinctive form, the arrivals of produce from each important railway station in India.

The "*Daily Trade Return*," which is another important publication, deals with the trade by sea, and under the head of Imports shows the different grades of piece goods and yarns, yellow metal and copper sheets imported into Bombay by Banks and Mercantile Houses, together with the names of vessels carrying the cargo and the ports from which they have sailed. The imports of treasure, that is to say, gold and silver bullion and coin, is also shown from day to day. Similar information is given as regards the daily exports, such as cotton, wheat, seeds, country-made twist and piece goods. With this return is also published a list of steamers and the cargo carried by them from Bombay to ports in Europe, China, &c. Then there is a table giving the names of vessels in course of loading in the docks or in the stream, showing, in each case, the description of cargo received on board from day to day. Particulars are also published showing the names of steamers sailing from various ports for Bombay; also the dates of departure from Bombay of steamers of the P. & O. S. N. Company and other leading liners. There is also in the same return a list of vessels lying in harbour, including steamers of the Royal Navy and the Royal Indian Marine.

The Chamber also publishes twice a week detailed returns known as "*Import*" and "*Export*" *Manifests*. These give the particulars of the cargo carried by *each* steamer to and from Bombay, and the information is of particular value to merchants, inasmuch as it enables them to follow the expansion or contraction of trade in any particular class of merchandise.

There are three statements which are issued once a month. One shows *the quantity of exports of cotton, seeds, and wheat* from the *principal ports in India* (Bombay, Calcutta, Karachi and Madras) to Europe, China, Japan, &c. Each commodity is separately shown as also the share of each province. The second return gives in detail the *imports from Europe*, more particularly in regard to Grey Cloths, Bleached Cloths, Turkey and Red and Scarlet Cloths, printed and dyed goods, fancy cloths of various descriptions, Woollens, Yarns, Metals, Kerosine Oil, Coal, Aniline Dyes, Sugar, Matches, Wines and other sundry goods.

The third statement is headed *Movement of Piece Goods and Yarn by rail*, and shows the despatches from Bombay to other centres of trade served by the Great Indian Peninsula, Bombay, Baroda and Central India, and other connected Railways. The exports dealt with in this return refer principally to Piece Goods and Yarns, both imported and of local manufacture.

The *Weekly Return* shows the clearances of Cotton, Wheat and Seeds; of Managanese Ore, Myrabollams, Hides and Skins, Cow and Buffalo Horns, Gum Arabic

and Olibanum, Ground-nuts, Cotton Waste and Fly, Oil Cakes, Bones, loose, crushed, meal and sinews; and other miscellaneous articles.

The return known as *Current Quotations* is issued once a week on the day of the departure of the Indian mail for Europe, and shows the rates of exchange for Bank and Mercantile Bills on England and Paris, and "First Class Credits," prices of English bar gold, sovereigns and bar silver. Government of India Securities are also quoted; as well as prices of Grey Shirtings, Yarn, Copper, and Yellow Metal, Bar Iron and Steel, Sugar, both Mauritius and China descriptions. The statement further gives the current market rates of the leading descriptions of coal, English and Indian; the ruling rates of the various growths of cotton are also included with their classifications, together with the prices of Wheat and Seeds, Sugar and Opium, and the current rates of freight to English and Continental Ports.

The Annual Reports of the Bombay Chamber of Commerce are bulky volumes, and the one for 1904 contains, like its predecessors, a record of much useful work that will be found invaluable in the mercantile communities, both of Bombay and of those cities in commercial relations with the Western Capital of India. The interests of the Chamber—as will be apparent from what has been said in other parts of this chapter—are of a very comprehensive character—as wide, indeed, as those of the trade and industry they represent. The annual volume is no mere dry compilation, but a very living portion of the history of Bombay, and a credit to the members of the staff whose duty it is to put such a mass of varied material into such readable form.

Affiliated Bodies.

The Bombay Millowners' Association and the Bombay Cotton Trade Association are, under special arrangements, affiliated with the Chamber, and their general Secretariat work is conducted by the Chamber's staff.

The objects and duties of the Millowners' Association (which was established in the year 1875) are to encourage friendly feeling and unanimity among Millowners and users of steam and water power, on all subjects involving their common good, to promote and protect, in any way which may seem best, the interest of Millowners and users of steam and water power, especially of those who may be members of the Association, to collect and classify information on all matters of general interest, to obtain the removal, as far as this Society can, by all legitimate means, of all acknowledged grievances affecting Millowners and users of steam and water power as a body, to receive and decide references on matters in dispute, which may be laid for arbitration before the Association, and to communicate with the public authorities, and with any individual or corporation, when it may be needful to do so, on all subjects of general interest to members of the Association.

The Bombay Cotton Trade Association has also been in existence for many years. The objects for which the Association was established were, *inter alia*, "to adjust disputes between persons engaged in the Cotton Trade, to establish just and equitable principles in the said trade, to maintain uniformity in Rules, Regulations, and usages of the said trade, to adopt standards of classification in the same, to acquire, preserve, and disseminate useful information connected with the Cotton interests throughout all markets, and generally to promote the Cotton Trade of the City of Bombay and India; and augment the facilities with which it may be conducted."

Representation on Public Bodies.

The Chamber has, under legislative enactments, the right of representation on such public bodies as the Bombay Port Trust, the Municipal Corporation, and the City Improvement Trust.

The Council of the Governor of Bombay includes, among its non-Executive Officers, a representative of the Chamber who is also *ex-officio* a member of the General Committee of the Chamber during his term of office.

Arbitrations.

Rules regarding General Disputes and Arbitrations have been in existence in the Chamber for many years, and have worked most satisfactorily, the decisions given being, in all cases, arrived at by competent and impartial arbitrators appointed by the General Committee of the Chamber.

Members of Chambers.

On the 1st September 1905, the number of members of the Bombay Chamber of Commerce amounted to 93. Of these nine represent Banking Institutions; eleven, Shipping Agencies and Companies; three, firms of Solicitors; three, Railway Companies; two, General Publishers; two, Engineers and Contractors; and 63, firms engaged in General Mercantile business.

All persons engaged or interested in mercantile pursuits, desirous of joining the Chamber, and disposed to aid in carrying into effect the objects of the same, are admitted members provided they are duly ballotted for and elected under the rules of the Chamber. The subscription for membership is £1 per mensem, and an additional charge is made to firms subscribing to the Trade Returns published by the Chamber, which are referred to elsewhere in this Chapter.

Honorary Members.

Gentlemen distinguished for public services, or eminent in commerce and manufactures, are elected Honorary Members of the Chamber. There are three such Honorary Members at the date of the publication of this volume: namely, the Right Honorable Lord Reay, L.L.D., G.C.I.E., at one time Governor of Bombay; Mr. A. H. Campbell and Mr. J. M. Maclean.

Secretaries.

The following are the names of the gentlemen who have filled the office of Secretary of the Chamber from time to time:—R. X. Murphy, 1836-38; J. E. Brenan, 1838; R. X. Murphy, 1838-41; T. J. A. Scott, 1841-46; John Connon, 1846-57; John Mawson, 1857-59; J. A. Crowie (acting), 1858-59; H. Brooke, 1859-64; James Taylor, 1864-73; John Gordon, 1873-84; David Watson (acting), 1881-82;

John Marshall, 1884-98; Frederick Noel-Paton, 1898-1905.

Mr. C. J. Michael, the Assistant-Secretary, has been connected with the Bombay Chamber of Commerce for over twenty years. He has, on several occasions, acted as Secretary, in addition to his own duties. The many important questions which have come before the Chamber during the last quarter of a century have, in each case, passed under his observation; and his long and valuable experience, therefore, enables him to be of great assistance to successive committees, who are called upon, from time to time, to deal with matters, the history of which, in many instances, has to be traced back many years.

The present incumbent, Mr. J. B. Leslie-Rogers, succeeded Mr. Frederick Noel-Paton in 1905, on the resignation of the latter gentleman to join the Government of India as Director-General of Commercial Intelligence in the new Department of Commerce and Industry. Mr. Rogers, it may be mentioned, has had a varied and extensive experience of over twenty years in India, and has an intimate knowledge of its people. He was the President of the Dehra Dun Planters' Association, and chosen delegate of that district at a conference at Lahore, held by the Lieutenant-Governor of the Punjab, for the purpose of re-opening trade with Afghanistan and Central Asia; and subseqently he was nominated by the Indian Government as representative of the Tea Industry and Trade in Upper India on Lord Roberts' Mission to Cabul. He is a versatile writer on Industrial Commerce and political subjects connected with India and a distinguished Volunteer Officer. Until recently, Major Leslie-Rogers commanded the well-known Dehra Dun Mounted Rifles, and he was the first Indian Volunteer Officer to be selected by Government to accompany the regular army on active service across the North-West Frontier as Intelligence Officer on the General's staff. For his services on that occasion he was specially mentioned in despatches, and received a Medal and Clasp. Major Leslie-Rogers also wears the long Service Medal.

Finances.

The Finances of the Chamber are in a flourishing condition, and at the end of the year 1905 the Reserve Fund amounted to over £4,000.

Early History.

A matter of considerable importance to the trade of Bombay which occupied the attention of the Chamber in the early years of its existence, had reference to the abrupt and unexpected alteration of the rates of exchange established by the Indian Government for their advances on produce consigned to Great Britain. A memorial on the subject was addressed by the Chamber to the "Board of Control," or, more correctly speaking, to the then "Right Honorable Her Majesty's Commissioners for the affairs of India."

The memorial set forth the grievances to which the merchants engaged in the East Indian Trade had been subjected by the sudden and capricious change made by the Honorable Court of Directors in their rates of exchange, both in India and England, and prayed that some plan might be devised for placing the monetary operations of the Indian Government on a sound and proper footing, and rendering it incumbent on the Court to give adequate timely notice to the mercantile community of the terms of their financial measures, and of every proposed alteration.

A Distinguished Chairman.

The longest period of office of a Chairman of the Bombay Chamber of Commece was that occupied by Sir Frank Forbes Adam, *Kt.*, C.I.E. A great authority upon Indian affairs once said that nothing had struck him more than the difference between the manner in which Commercial and Industrial pursuits were carried out in the Western Presidency and in other parts of India. "Now the Bombay Chamber of Commerce," he remarked, "has to take a lead in these matters to preserve these traditions." "I know it does not absolutely control them, because you depend upon the intelligence and the energy of individuals; but still these individuals in their aggregate character form the Chamber of Commerce, and the character of the Chamber besides depends very much on the person who is at its head and guides and controls its destinies." If the Chamber has exercised such a powerful influence during the more recent years of its existence, it is because of the gentlemen who have from time to time occupied the chair. To Sir Frank Forbes Adam, who had the honour and the privilege of being the Chairman for a succession of years, the greatest credit is due.

Trade and Commerce flourish best where there is confidence, security and peace. We have for long had peace within our border, though in the years of Sir Frank Forbes Adam's Chairmanship, scares were not uncommon, and spasms, vacillations, uncertainty and change of plan characterised the policy pursued in what is known as the North-West Frontier of India. Each move of Russia was a cause of fresh and often aimless expedition. Those days have happily passed away. Our principal frontier and our seaports have been fortified and secured, though there were some who thought a fortified frontier was unnecessary, and that the expense was a needless tax upon the resources of the people. It must, however, be left to the pen of the future historian to decide whether those responsible for the administration of India have succeeded in contributing to the peace and security of the country in dissipating some formidable dangers, and in inaugurating reforms and improvements in its general administration.

Recent Events.

Mr. Charles H. Armstrong, who served as Chairman of the Bombay Chamber of Commerce in 1904, was re-elected to that office in the following year. He was born in Lancashire (England) in 1862, and was educated at the King's School, Canterbury. He began his business career in Manchester with the firm of Messrs. Lyon, Lord & Co., Merchants and Shippers, and has been connected with them over twenty-six years. Messrs. Lyon, Lord & Co. is a very old and representative house and has had a Branch Es-

tablishment in Bombay (under the title of Lyon & Company) for over half a century, Mr. Armstrong being the senior partner in India.

In Bombay Mr. Armstrong has been connected with several public bodies beside the Chamber of Commerce. As a Member of the Board of the Bombay Impovement Trust he helped in schemes for the beautifying and general improvement of the city and its environs. As a representative of the Chamber on the Board of Trustees of the Port of Bombay, his services have been of value both in financial and other public matters which the Board have had to deal with in recent years, more particularly in regard to the extension of the Prince's and Victoria Docks in Bombay—a work which reflects great credit on the Trustees of the Port and will be an everlasting and magnificent monument of industry and professional ability.

Mr. Armstrong has also been connected with the Directorate of the Bank of Bombay, and during his Chairmanship of the Chamber represented the Commercial Community in the Legislative Council of the Governor of Bombay.

The first Conference of Indian and Ceylon Chamber of Commerce, which was held in Calcutta in January 1905, was brought about, in a great measure, by the representations of the Committee of the Bombay Chamber, who, prior to its inception, often felt, when dealing with the matters in which other Chambers in India were equally interested, that some hesitancy was introduced into their deliberations by the fact that they did not fully know how the matter in hand was regarded by practical business men elsewhere than in Bombay. They imagined that this condition was not peculiar to Bombay and that its effect, in many cases was to prevent the realization of general principles in which all in reality had a common concern. The Chambers of Commerce in India may congratulate themselves upon the extent to which their usefulness and reliability are recognised by Government; but their usefulness and influence will undoubtedly be increased if the separate recommendations of the various bodies—as indicated in the proceedings of the Conference referred to—were known to be made with fuller appreciation of other than local considerations.

Lord Curzon, in welcoming the delegates, at a banquet at Government House on the 5th January 1905, said that, it seemed to him an excellent thing that representative Members of the Chambers of Commerce of India should meet in Conference. "You exchange," he said, "useful ideas and you pass resolutions relating to the commercial and industrial condition of the country. The interests that are represented by the gentlemen who are sitting at this table to-night are, in my judgment, very important ones, for they are commensurate with the whole field of economic development upon which the future prosperity of this country so largely depends." "Your meetings," His Lordship continued, "and your discussions concern a much wider class than the Members of the Chambers of Commerce alone, because they affect the vital interests of the country at large. From a careful study of your proceedings in the newspapers, I am glad to note how general a recognition there now appears to be of the community of interests between Government and commerce in this country, and of the extent to which both the Supreme Government and the Local Governments endeavour to co-operate with your aims. We do not hear so much now-a-days as we used to do about the alleged antagonism between Government and trade, about the indifference of Government to commercial interest, and the crass obtuseness of the official mind. I rejoice particularly that it has been my good fortune to be the head of the Government which has taken what I think may be described as the most practical and far-reaching step that has been adopted, at any rate, in recent years, for the furtherance of commerce in India. I allude of course to the creation of an independent Department of Commerce with a separate Minister at its head. In this country we are often supposed to be very backward and torpid in the movement of our ideas, but here at any rate, I think we may claim to be a little bit ahead of some other parts of the British Empire, for at least we may boast of having created a Ministry of Commerce before Great Britain has found it necessary to provide herself with the same commodity."

The following is a list of the subjects which were discussed at the Conference :—

The development of the Agricultural Resources of India; Commercial Education; Registration of Partnership; Transfer of Property Act; Indian Arbitration Act, 1895; Statutory Holidays in the United Provinces of Agra and Oudh; Commercial Causes; Registration of Trade Marks; Imperial Customs Service; Short Reeling of Yarns; Treatment of Light Coin; The Fiscal Question; Sugar Duties; The Merchandise Marks Act; Mail Service between Aden and Karachi; The Income Tax Question; The Currency Question; Inland Navigation; British Import Duty on Tea; Proposed Amendment of the Indian Railways Act (IX of 1890); Indian Railway Risk Notes; The Labour Question; Encouragement of Local Industries; Insurance Matters; Indian Cotton Duties (Excise).

Suez Canal.

"There is nothing new under the sun," thus runs the saying, and it is true, so far as regards the idea of uniting by a Canal the Mediterranean and the Red Sea, which has proved one of the greatest and most successful engineering and commercial feats of our time. In 1823, the Government of Bombay vainly endeavoured to establish steam communication with Suez. Subsequently Lieutenant Waghorn obtained leave from the British East India Company, to take at his own expense to India a duplicate of the despatches of the Court of Directors. He succeeded in demonstrating the great saving of distance and time. But this was his only triumph.

Thirty years later, Ferdinand de Lesseps obtained the first concession from Said Pacha, who was then Viceroy of Egypt, and on November 17th, 1869, the Canal was open by Her Majesty the Empress Eugenie, who, in the Imperial Yacht *L'Aigle*, headed a procession of 68 vessels through the Canal.

Napoleon III was well justified in referring to the Canal "as a

work due to the perseverance and to the genius of a Frenchman." He might have added with justice that it would have come to nothing but for His Majesty's consistent support. The Government of India telegraphed to de Lesseps: "Success to a gigantic work of peace well executed by a Frenchman in the interest of the Universe," and Lord Clarendon as Secretary of State for Foreign Affairs, addressed a handsome letter to the "Grand Francais" on the part of the British Government. Six months later M. de Lesseps visited England and received an enthusiastic and popular welcome besides the Freedom of the City of London, and the Grand Cross of the Star of India. The London *Times* made handsome amends for its previous hostility and said: "M. de Lesseps has arrived in a country which has done nothing to bring about the Suez Canal, but which since its opening has sent through it more ships than all the rest of the world."

Railway Extension.

The expansion of the Railway system in India is in a measure due to the opening of the Suez Canal, which event caused a complete revolution in the course of trade with that country. A notable example is to be found in the wheat trade. Virtually it began in 1872-73, two years after the opening of the Canal when the export amounted to 297,308 cwts.; in 1882, the shipments rose to 19,863,520 cwts., and the trade has since increased by leaps and bounds. It is, however, not only in the development of the country, and consequently of the export trade, but also in the expansion of the import trade of the country, that railway extension with a quick sea route, are of such supreme importance to India. The trade returns of British India show that every increase of facilities for trade, by means of extended railway communications, has been attended with an increased demand for European manufactures. In the year 1852-53, when railways were first opened, the imports of merchandise amounted to £10,070,861; in 1872-73, with 5,671 miles of railway, and the facilities afforded by the Suez Canal, the value of the imports increased to £31,875,000; in 1882-83, with a mileage of 10,317 miles, the imports jumped to £52,095,670. At the present time the total railway mileage in India is 27,565 miles, while the value of the import trade of India has advanced to £86,470,412 as will be seen further on.

The question of railway communication with the Western Presidency has, of course, occupied a prominent place in the work of the Bombay Chamber of Commerce; and although the projects which that body has advocated from year to year have become fewer as Government have accepted the Chamber's recommendations, there is nevertheless still much to be done before the subject can disappear from the records of the Chamber.

While advocating, on general lines, the extension of railways, the Chamber has not been unmindful of the more pressing needs of the country to the development of main lines of communication. It has never been any part of the policy of the Bombay Chamber of Commerce to begrudge or object to railway development in other centres of trade, and when in recent years the subject of the adverse rates ruling for goods traffic between Delhi and the districts of the North-West (now known as the United) Provinces and Bombay, as compared with the rates charged over a neighbouring railway to Calcutta, was brought to notice, the Chamber at once saw the disadvantage Bombay laboured under for the want of direct through communication on lines of one gauge and under one administration. When, therefore, the co-operation of the Chamber was invited to the urgent necessity of the Nagda-Muttra Railway, the Chamber lost no time in representing the matter to Government and soliciting their strongest sympathy and advocacy for the early construction of this Railway, which will place Bombay in more direct communication with Delhi—an important centre of trade—and will at the same time open out a large area of country in Central India that is at present land-locked. It will also give a shorter route for mails and passengers from Delhi and the North than that by the Indian Midland system, and will be of great value in supplementing the carrying powers of existing railways.

The importance of this line has all along been recognised by the Government of India; and it is satisfactory to be able to place on record the fact that of the total length of the line, namely, 360 miles, costing £2,338,000,142 miles are now under construction. The railway will take some three years to build, but the southern part will be thrown open to traffic as each of its sections is completed, and it is expected that the entire line will be finished by March 1908.

The long delay that has occurred in the construction of this line may be explained by the fact that for a series of years, the railways of India imposed a net burden on the revenues of the country, that is to say, the net earnings fell short of the annual expenditure on account of interest on debt and other charges debitable to the railway account. Even when the burden was heaviest, it was far outweighed by the collateral benefits which the country derived in a hundred ways from the existence of the railways. But the burden itself has at last slipped from the shoulders of Government. For six years past the railway revenue account has shown, not a deficit, but a surplus. The following figures show the net profit in cash which has accrued to Indian revenues in those years, after deduction of every item which can possibly be charged against the account, including working expenses, interest on capital surplus payable to the companies, and annuity charges for purchase of the old guaranteed lines, and all miscellaneous railway expenditure whatsoever:—

1899-1900	.. ..	£76,756
1900-1901	.. ..	£325,124
1901-1902	.. ..	£846,616
1903-1904	.. ..	£228,949
1903-1904	.. ..	£860,669
1904-1905	(Revised Estimate) ..	£2,254,500

Railways in Western India are a topic upon which it is very easy to dilate, but we have already in this chapter transgressed our limits. We therefore lay down our pen with the consciousness of having treated the subject in a very con-

densed form. May the progress of the railway system in India be rapid and triumphant! A golden age is, it is firmly believed, dawning upon this country; and to the present Viceroy, Lord Curzon, will belong the honour of its inauguration. It may or may not be His Lordship's fortune to render more distinguished service to the State;* but when the railway system shall, have fulfilled its destiny in India he will alone have won for himself a red letter page in the annals of this magnificent Empire.

Looking ahead.

It is almost impossible to mention any important event in the commercial history of Bombay without connecting it with the Bombay Chamber of Commerce. With regard to legislation, we have the Indian Railway Act, the Indian Merchandise Marks Act, the Karachi and Aden Port Trust Acts, and the Municipal Corporation Act of Bombay. The extension of our Docks, the systematic and extensive reduction of our Port Dues—a matter of the utmost importance to the prosperity of this commercial city—were promoted through the instrumentality of the Bombay Chamber of Commerce. The adulteration of Wheat, and the mixing of Cotton, have for many years come under the purview of the Chamber, and are still among the leading commercial topics of the day. The legal standard of 36 inches in the English yard was satisfactorily settled many years ago, and is now a recognised measure of length throughout India.

The Indian Merchandise Marks Act, the object of which was to bring the law of India relating to fraudulent marks on merchandise into accord, as far as local circumstances admit, with the law of England, has now been in operation for many years, but the Chambers of Commerce in India have of late been much concerned about the provision in the Act which requires all foreign goods to be marked with the country of origin, as it has tended to divert trade from local British import merchants to foreign offices located in the country. Formerly the Continental trade to India was done through British firms or firms established in Britain, and was carried in British steamers, being transhipped at London or elsewhere. Now all this is changed. The legislation has given to the foreigner the best and cheapest advertisement in the world. The educated wholesale buyer in India soon recognised the extravagance of ordering foreign goods through a house in London. The foreign shipper soon saw how much cheaper it was to ship direct to India, and within a short time of the passing of the Act, India's foreign import trade—or at least the bulk of it—practically ceased to pass through Great Britain and to be carried in British steamers, and with its removal ceased to leave a commission to the British trader and ship-owner.

For some time past the Bombay Chamber of Commerce has been conscious of the defects of the present system of localisation and diversity in Customs Administration, and it has been convinced that those defects would become more and more prominent with the growth of external trades and that they would not be removed by any partial or local remedies.

The Chamber of Commerce brought the matter to the notice of the Government of India, and as a result of its repeated representation, the Imperial authorities have formulated a scheme for the creation of an Imperial Customs Service for the principal ports in India. They would combine in one service under the direct control of the Government of India, the appointments of Collectors of Customs at Calcutta, Madras, Bombay, Rangoon, Karachi, and Chittagong. The Government of India consider that the objects in view cannot be attained unless the new service is directly administered by the Supereme Government, but they do not propose to dissociate Local Governments from the Customs Administration. They realize the importance to Maritime trade of prompt decisions on points of Customs law by competent local authority. The divergencies which at present exist in the administration of the Merchandise Marks Act, for instance, cannot but be a serious embarrassment to trade; and the Government of India therefore recognise the necessity for securing uniformity in Customs procedure, and diminishing the excessive number of changes in the European staff. The loss of efficiency involved in such transfers is obvious; and the Government of India hold very strongly that, in all essentials, the administration of the Customs should be uniform at all Indian ports.

Then we have the question of the employment of the surplus treasury balances of the Government of India, which was skilfully discussed and brought about by the Chamber. The Gold Reserve Fund has also incidentally formed part of the larger questions of finance which the Chamber has dealt with in recent years. It is believed, by those best qualified to judge, that the principle of a Gold Reserve Fund—the greater portion of which is invested in Gold Securities, Consols, the National War Loan and Local Loan Stocks—is the only one which can be adopted to secure safety whilst admitting free coinage to meet requirements. The State which issues a token currency, whether paper or metal is immaterial, is in the position of a banker issuing notes. The banker need have no hesitation in issuing notes, so long as he maintains a reserve sufficient to encash them on presentation; the obligation to maintain such a reserve is imperative, and the only point of doubt is the proportion to the total issue which it may be necessary to maintain to ensure safety. In India the rupee currency is a token currency, and the Government of India is practically in the position of a banker who has issued a certain amount of fiduciary currency and assumed the corresponding obligation to maintain a position assuring the exchange of this currency for gold when presented for conversion to meet legitimate trade demands.

The first year of Lord Curzon's Viceroyalty was financially memorable by reason of the introduction of the Gold Standard, a measure which is slowly but steadily accelerating the flow of Capital from England to India. His rule has witnessed the complete rehabilitation of the rupee, and the former paralysing fluctuations of that once

*Note.—This was written in August 1905, some weeks before Lord Curzon had tendered his resignation of the Viceroyalty of India.

erratic coin have been succeeded by continuous stability. It was at first found necessary to take various measures to popularize the novel gold currency, but the sovereign is now a familiar coin usually accepted with alacrity.

The Gold Reserve Fund, towards the accumulation of which a modest commencement was made in the year 1900, had, at the close of 1905, reached a total of approximately nine millions sterling. A corollary of this precaution is the Currency Reserve, which, up to about the same period, reached eleven millions sterling; it is intended to secure the stability of the note circulation, and to provide for a demand for gold as distinguished from rupees. The position of gold in the Indian Currency Reserve may be compared with that of gold in the Bank of England, which is held at the free disposition of the public. But strictly speaking, the gold in the Gold Reserve Fund in India is held under conditions more nearly resembling those under which gold is held by the Bank of France, only to be issued to meet the *legitimate* requirements of trade.

Trade in General.

Although the growing commercial prosperity of India is now generally recognised as a factor of immense importance in the strength and stability of the British Empire, it is not realized as fully as it deserves to be how rapid has been the actual rate of progress, or how great is the expansion of the trade of India that has occurred within the last few years. No other possession of the Crown can show anything approaching the record achieved by this country since the date of the great famine of 1900. Recuperative capacity is a difficult thing to contrast where the local conditions differ, but compared, say, with South Africa since the conclusion of the war, India has far out-stripped it in the development and increase of her trade and her material resources.

That agriculture is the foundation on which rests the whole economic structure of India, is nowhere so plainly revealed as in the export trade and its remarkable expansion during the last four years; for putting aside gold and other minerals of which only a few like Coal, Salt, Saltpetre, Petroleum, Mica, and Manganese have been developed beyond a rudimentary stage and none of which figure prominently in the export trade, all save an almost negligible fraction of the raw produce and articles mainly unmanufactured, which form the great bulk of the export of India, and of the material for the comparatively small exports of manufactured articles, are provided by its own husbandry, pasturage, or forests. The large decrease of £4,626,000 in the value of raw cotton, during the year 1904-05, was entirely due to the smaller volume of the exports, for the high average price of the previous year 1904 was maintained. The characteristic feature of the trade in the 12 months ending 31st March 1905, was the unparalleled exports of wheat, rice, and other food grains. The export of wheat increased in value by £4,653,000, and of all grains by £5,673,000. Estimated by value the exports are the highest recorded of raw jute, raw skins, raw wool, cotton manufactures, jute manufactures, and lac, while larger quantities than in any previous year were exported of Tea, Coal and Seeds. Among other principal articles there were smaller exports of Spices, Indigo, Vegetable Oils, Raw Silk, and Dressed Skins. Notwithstanding extremely high prices fetched by raw jute during the last quarter, the jute mills had a prosperous year, while the falling price of raw cotton and the improving demand for yarn and cloth had brought the cotton industry at the close of the year to a condition of almost unexampled prosperity.

We conclude this chapter with the following statistics of the trade of India. It must be understood that the official year of the Government of India begins on 1st April and terminates on 31st March. On this basis the figures given below have been compiled from the latest returns, and show the value in pounds sterling (*i.e.*, Rs. 15 to the £) of the import and export trade of the country in 1904-05 and the four preceding years. The extraordinary growth of the trade will at once be perceived:—

Imports.

1900-01.		
Merchandise	...	£50,851,923
Gold	...	£7,914,255
Silver	...	£3,061,483
Total	...	£61,827,661
1901-02.		
Merchandise	...	£54,345,986
Gold	...	£5,531,747
Silver	...	£7,567,172
Total	...	£67,444,905
1902-03.		
Merchandise	...	£52,525,272
Gold	...	£8,764,437
Silver	...	£8,072,715
Total	...	£69,362,424
1903-04.		
Merchandise	...	£56,548,862
Gold	...	£13,420,783
Silver	...	£7,874,725
Total	...	£77,844,370
1904-05.		
Merchandise	...	£64,452,059
Gold	...	£14,541,316
Silver	...	£7,477,037
Total	...	£86,470,412

Exports.

1900-01.		
Foreign Merchandise		£2,139,021
Indian do.	...	£69,440,332
Gold	...	£2,870,590
Silver	...	£2,112,380
Total	...	£76,562,323
1901-02.		
Foreign Merchandise		£2,173,210
Indian do.	...	£80,803,376
Gold	...	£2,244,319
Silver	...	£3,397,392
Total	...	£88,618,297
1902-03.		
Foreign Merchandise		£1,957,075
Indian do.	...	£83,919,834
Gold	...	£2,451,595
Silver	...	£3,421,746
Total	...	£91,750,250

1903-04.		
Foreign Merchandise		£2,217,006
Indian do.	...	£99,756,049
Gold	...	£2,535,118
Silver	...	£2,897,797
TOTAL	...	£107,405,970

1904-05.		
Foreign Merchandise		£2,248,366
Indian do.	...	£102,751,613
Gold	...	£2,465,726
Silver	...	£2,851,985
TOTAL	...	£110,317,720

It will be seen that the grand total of imports and exports is greater by £11,533,000 or 6·2 per cent than in 1903-04 that year's trade having been 15 per cent in advance of the previous year. Taking merchandise only, the great advance in imports has corrected the extraordinary disparity between the value of the imports and exports which appeared in the previous year. In 1903-04 the value of the imports for home consumption, that is, deducting the re-export from the registered imports, increased by £3,763,000 of 7·4 per cent, while the exports of Indian merchandise in that year advanced by £15,836,000 or 18·8 per cent; but in 1904-5 the conditions reversed, the imports growing by £7,873,000 or 14·4 per cent, while the export rose by only £2,995,000 or 3 per cent. Adding the result of the two years, that is, comparing the trade of 1904-05 with the trade of 1902-03, there has been an even development of both imports and exports, the former increasing by £11,633,000 or 23 per cent, and the latter by £18,833,000 or 22·4 per cent. In both years one of the most potent influences affecting the trade has been the American cotton crop. In the former year the scarcity of raw cotton threw the cotton manufacturing industry of the whole world out of gear, and so checked the imports of cotton goods, the principal article of Indian trade, while at the same time it caused exports of raw Indian cotton of unprecedented magnitude. In the latter year, an extraordinary abundance of American cotton brought great prosperity to the cotton spinning and weaving industry, and the revived Indian demand for cotton goods exceeded that of any previous year. Imports of cotton yarn and fabrics in 1904-05 thus increased in value by 22·7 per cent or £4,690,000 and exports of raw cotton fell by 28 per cent or £4,626,000. The value of cotton piece-goods was £4,180,000 greater than in 1903-04 and £3,053,000 higher than the previous record in 1901-02. These results are partly due to the higher price of the raw material when the contracts were made, for £2,076,000 more was paid for imported cotton yarn and cloth than the same quantities would have cost at the price of 1903-04. Imports of the other textile manufactures were also beyond all precedent, silks increasing by 15½ per cent and woollens by 42½ per cent. The value of all yarns and textile fabrics reached the greater sum of £29,053,000, this being 23·4 per cent more than the value in 1903-04, and representing 45 per cent of the total imports of merchandise. Most of the large trade in apparel, valued at £1,262,000 in 1904-05, also consists of made-up textile fabrics. Among the other principal articles the imports were the highest ever recorded of sugar, hardware, metals and machinery, and there are a few articles in which the trade did not improve. The largest registered decrease is in precious stones and pearls, but the valuations of these are not reliable. There were also smaller imports of mineral dyes, following exceptionally large imports in 1903-04, and a decline in the value of imported mineral oil.

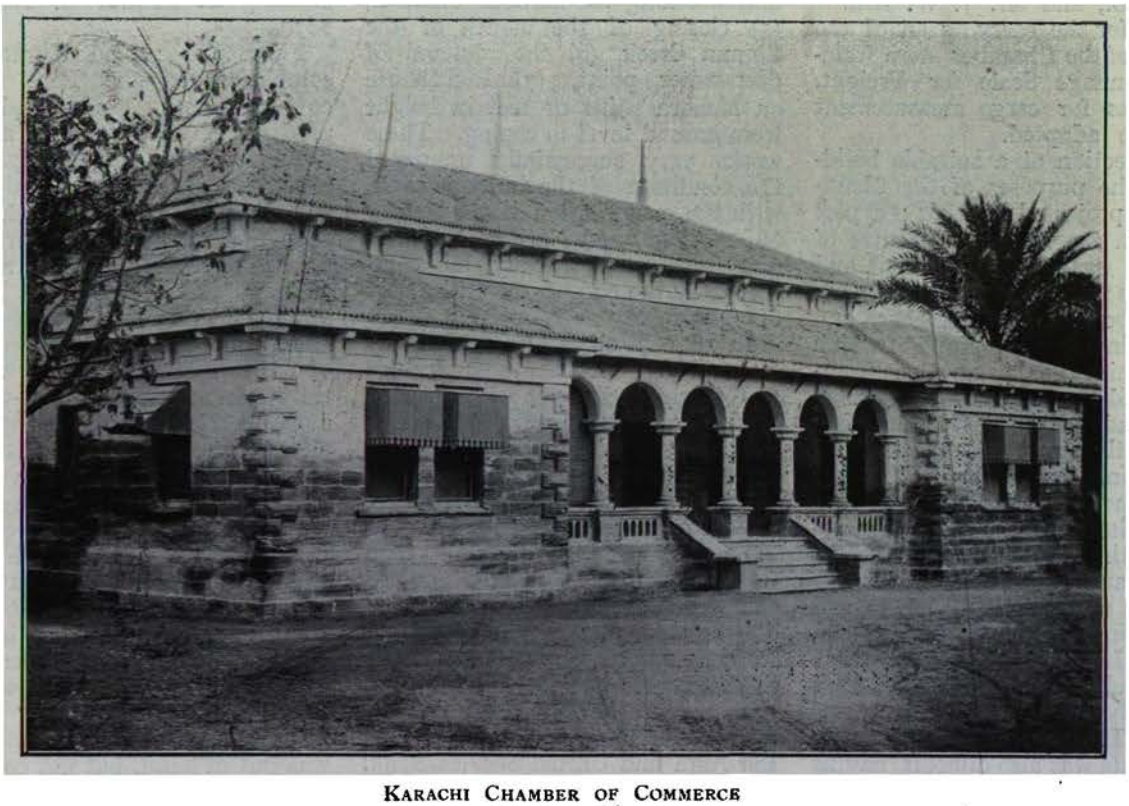
CONCLUSION.

Agriculture, on which India depends to so great an extent, has been equipped with scientific direction, laboratories, and experimental farms. Railways, which have proved so beneficial and so lucrative to the country under a wise and conservative system of administration, have now reached a stage when the old methods require change, and the Railway Board, which Lord Curzon has called into existence, promises to be more expeditious and more consistent in its policy than its worthy and meritorious predecessor. Commerce and Industries can now claim the undivided attention of one member of the Viceroy's Council, and in all directions the decks are cleared, and the ship of INDIAN STATE is ready for its onward voyage.

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY

The

Karachi Chamber of Commerce.



KARACHI CHAMBER OF COMMERCE

THE KARACHI CHAMBER OF COMMERCE.

THE history of the progress of Karachi both as a Port and as a centre of trade is most interesting. The Province of Sind with its Port Karachi became an integral part of British India by conquest in 1843 and was under the Government of Sir Charles Napier as a separate Province until 1847 when it was annexed to the Bombay Presidency. At this period the harbour which is situated on the northern border of the Arabian Sea, 50 miles west of the main mouth of the river Indus and 495 miles west of Bombay, was simply a creek running inland where vessels of light draught could anchor, in the South-West monsoon, however, vessels could neither enter or leave the harbour, with safety, owing to the existence of a bar right across the entrance, the depth over which was only about eight feet, the anchorage inside was, moreover, separated from the Sea by a shoal 2440 feet in width. The first works of accommodation executed in connection with the harbour were the Timber pile pier at Keamari accessible to native craft and lighters and the Napier Mole causeway 2 miles in length connecting Keamari island with the Native Town. The trade of the Port at this period was but trifling, and it was not apparently till 1860 that European firms from Bombay opened branches at Karachi, and in this year the Karachi Chamber of Commerce was founded, with but seven members, *viz.*, Messrs. D. McIver & Co., Messrs. Fleming & Co., Messrs. Finlay & Co., Messrs. Ashburner, Bell & Co., Messrs. Barclay, Watson & Co., Messrs. T. Lidbetter & Co., and Messrs. I. L. Dunnolly & Co., before the end of the year, however, six additional firms were elected as members, *viz.*, Messrs. S. Tyabji

& Co., Messrs. R. A. Passmore & Co., Messrs. Volkart Brothers, Messrs. Hafen & Co., Messrs. Ardaseer & Co., and Mr. J. W. Hill, thus increasing the membership to thirteen.

The first Committee of the Chamber consisted of five members, Mr. D. McIver, of Messrs. D. McIver & Co., Chairman; Mr. A. Stewart, of Messrs. Finlay & Co., Mr. Barclay, of Messrs. Barclay, Watson & Co., Mr. Bell, of Messrs. Ashburner, Bell & Co., and Mr. J. W. Hill.

Rules for the carrying on of the business of the Chamber were framed, a tonnage Scale for Freight, and Rules for cargo measurement were also adopted.

The erection of a suitable building for the purposes of the Chamber was projected in 1861; a plot of land in the marcantile centre of the town was later on acquired, and donations for the purpose were made by members of the Chamber, and the buildings (a photograph of which accompanies this paper) was completed and opened early in 1865.

The trade of the Port at this time was greatly hampered by the difficulties connected with the harbour, the absence of railway communication with the hinterland of Sind and with Baluchistan and the Punjab, and the necessity for the transport of all merchandise to and from the interior by native boats, *viâ*, the river Indus, and also the distance of the landing stage at Keamari from the Native Town and merchants' offices. The financing of trade requirements was also difficult, having to be worked in Bombay, as Banks were not then established at Karachi.

The following figures will show the progress of the trade of Karachi, 1843-44 to 1860-61.

1843-44	Rs. 11,60,520	First year after conquest of Sind.
1850-51	Rs. 59,11,788.	
1860-61	Rs. 2,54,94,675.	

The Committee of the Chamber in their first year of office were most urgent and diligent in their representations to Government for improvements of the harbour, Postal, and Telegraph communications (which were very defective), Railway connections with the interior, additional irrigation, and other matters calculated to advance the interests of trade. A great scheme for the improvement of the harbour which had been designed and submitted to Government by Mr. James Walker, M.I.C.E., a noted harbour Engineer in 1858, was sanctioned by the Government of India in the year 1860-61, and extensive works were immediately put in hand, *viz.*, (1) the Manora Breakwater, (2) Keamari Groyne, (3) new entrance channel, (4) deepening and widening the harbour Channel, (5) closing of the mouth of the Chinna Creek, (6) the removal of deep-water point, (7) Lighthouse on Manora point 91 feet in height from ground level to coping. These works very successfully improved the condition of the harbour, and, with the construction of the Napier Mole Bridge, and Native Jetty and quays, were practically all completed by the end of 1873, at a cost of £449,798.

In 1861 a short line of Railway from Kotri (on the river Indus) to Karachi, a distance of 108 miles, was opened for traffic, and river transport by steamer and Barges between Kotri in Sind and Multan in the Punjab was established. These increased facilities for the movement of merchandise to and from the interior greatly assisted the expansion of trade, the total of which for the year 1870-71 was Rs. 3,69,40,518.

There were but few additions to the membership of the Chamber during the period 1860-1870, but the Agra and United Service Bank, Ld., opened a branch at Karachi in December 1861, the Bank of Karachi was established the same year. The Chartered Bank of India, Australia and China, the Sind Punjab and Delhi Bank, Ld., in 1863, the Bank of Bombay in 1664, the Oriental Bank Corporation, and the Punjab Bank, Ld., successively opened in Karachi in 1866, and the previous difficulties in financing trade requirements were now overcome.

The linking-up of Sind with the Punjab by railway was now again very strongly advocated by the Chamber Committee as the one thing needed to largely augment the already growing trade of the Port. Surveys for a line from Kotri on the river Indus to Multan, the then terminus of the Punjab Railway, were made in 1871-72, but the construction was delayed owing to existing differences of opinion as to whether the gauge should be Standard or Metre. It was decided in favour of the Metre, but ultimately changed to the Standard gauge. The construction of the line was now vigorously pushed on and was completed throughout its length with the exception of the bridge across the Indus at Sukkur and opened to traffic with ferry crossing at Sukkur in November 1879.

From this period Karachi was established as the Port for the cotton, wheat, seeds, and other produce of the Punjab, and the trade for the period 1871-72 to 1880-81 totalled Rs. 41,27,65,062.

During the next decade 1881-1890 the Chamber membership increased to twenty-three, by an influx of new firms. Further harbour improvements were carried out. The Merewether Pier to berth one vessel of the largest class, fitted with one thirty-ton and seven thirty-five cwt. movable hydraulic Cranes was completed and opened in February 1883, the Erskine Wharf with five berths for the largest class of steamers fitted with one twelve-ton and twenty-two thirty-five-cwt. movable hydraulic Cranes, and the Napier Boat Wharf for native craft and lighters were completed and opened in 1887. The James Wharf in extension of the Erskine Wharf with four berths fitted with the necessary complement of movable hydraulic cranes was put in hand, but not completed and opened till June 1895. The harbour area for the mooring of vessels was likewise largely increased, and entrance Channel deepened and widened so as to admit of the largest class of steamers entering and leaving the harbour without difficulty or danger even during the South-West monsoons. The Karachi Port Trust Act was passed by the Bombay Legislative Council in 1886 (and amended 1892) under which the Port of Karachi was vested in a Board of Trustees consisting of eleven members, two of whom shall be natives of India residing at Karachi, Government nominating the Chairman, Vice-Chairman and four members. The Karachi Chamber of Commerce elected three members, and the Karachi Municipality two

members. The Chairman and Vice-Chairman since the formation of the Trust have been the Collector of Karachi and the Collector of Customs, respectively. Since the vesting of the Port under a Board of Trustees, improvements in the direction of the interests of shipping and trade have been vigorously carried out and all necessary requirements to this end advocated by the Chamber have always met with prompt attention.

Some further additions in the matter of Railway connections with Karachi also transpired during the decade, *viz.*, the construction of the Standard Gauge line to Quetta in 1887 which opened up direct trade with Baluchistan and Southern Afghanistan. The bridge across the Indus at Sukkur was opened on the 27th March 1889; the opening of this bridge rendered goods traffic more rapid than with the previous Ferry arrangements. The above noted harbour and Railway improvements gave a great impetus to the trade of the Port, which for the decade 1881-1890 totalled Rs. 95,19,40,645 or more than double that of the preceding ten years. The increase, it may be mentioned, was both in exports and imports, the former having expanded by Rs. 28,10,06,804 and the latter by Rs. 25,81,68,779.

The ten years 1891-1900 also records an increase of twelve in the Chamber membership, raising the number of members to thirty-five. In 1893, the Government of Bombay nominated the then Chairman of the Chamber, Mr. James Currie, to the Presidency Legislative Council as an additional Member and the Chairman of the Chamber has since then been regularly appointed to the Council. Further Railway additions and improvements were also brought about, *viz.*, a line from Hyderabad to Shadipali was opened in 1892 on the Standard Gauge which in the year 1901 was converted to the Metre Gauge and connected with the Jodhpore-Bikanir line, thus opening up direct communication with Bombay, and with the Metre Gauge system of the Rajputana-Malwa Railway, the North-Western Railway Line was extended from Killa Abdoola-Quetta to Chaman, within a short distance of the Afghan frontier on 1st January 1892, and the Southern Punjab Railway Delhi to Samasatta connecting with the North-Western Railway at that point was opened on 10th November 1897 and direct communication between Karachi and Delhi shortened by 187 miles. The Bridge across the river Indus at Kotri which was opened on May, 25th, 1900, was a much desired event, as ferry delays at that point was at times troublesome to trade. A Chord line connecting Kotri with Rohri on the North-Western Railway was opened in December 1896, thus shortening the distance to the Punjab, and providing an alternative line to Sukkur. The Port Trust were also very active in improvements. An export yard 52½ acres in extent, opposite the Erskine and James Wharves, with commodious sheds for the storage of produce pending shipment was opened during the year 1895-96, and an Import Yard with an area of 19 acres with warehouses for claimed and unclaimed goods adjacent to the mercantile offices and Native Town (and connected with the Railway outward goods yard) where all imports on arrival are conveyed by Railway from the ship side, a very great convenience to Importers, was completed and opened in March 1896.

The above mentioned Railway and Port Trust Improvements combined with extensions in irrigation in Sind and the Punjab gave a very great further impetus to the trade of the Port both as regards Exports and Imports, the increase for the ten years as compared with the preceding decade, being Exports Rs. 30,42,01,087, Imports Rs. 25,15,73,098, or a total expansion of Rs. 55,57,74,185.

During the five years 1901-1905 the expansion in the trade of the Port was well maintained, exports exceeding those of the preceding five years by Rs. 32,67,54,301 and Imports by Rs. 16,65,77,933 or a total increase of Rs. 49,33,32,234. The members of the Chamber during this period increased by nine and now stand at forty-five.

The progressive increase in Exports and Imports is largely due to irrgation in the Punjab and in Sind and to Railway extensions in the Punjab, and the expansion of trade in the chief articles of export and import from and to this Port is evidenced by the following figures for the twenty-five years 1881 to 1905 :—

PRINCIPAL EXPORTS FROM AND IMPORTS TO KARACHI.

(FOREIGN AND COASTWISE.)

In Lacs of Rupees.

For the twenty-five years ending 31st December 1905.

EXPORTS.

Year.	Wheat.	Cotton.	Wool.	Rapeseed.	Gingelly.	Hides & Skins.	Bones.
1881	9	31	50	17	8	14	..
1882	95	43	66	9	9	12	..
1883	130	44	55	32	29	11	..
1884	205	35	53	74	46	14	..
1885	186	37	55	80	52	15	1
1886	257	46	61	46	31	18	1
1887	101	63	60	37	26	19	1
1888	128	72	80	38	47	20	1
1889	290	74	91	39	34	17	4
1890	278	83	77	20	19	12	13
1891	460	67	97	44	27	15	4
1892	261	43	98	14	32	24	5
1893	227	96	88	138	77	20	7
1894	249	120	110	111	71	17	10
1895	328	123	103	47	70	43	15
1896	104	173	110	27	55	35	14
1897	139	140	111	33	42	34	16
1898	507	116	91	95	30	27	14
1899	513	95	101	62	60	52	18
1900	106	117	77	27	35	62	20
1901	323	148	66	222	25	38	9
1902	492	178	65	71	38	40	21
1903	717	277	80	43	47	49	18
1904	1,111	306	103	107	44	49	12
1905	841	283	99	83	26	64	12

IMPORTS.

Year.	Piece Goods and Yarns.	Sugar.	Metals.	Oil, Kerosine.	Coal & Coke	Timber.
1881	126	33	27	1	6	11
1882	142	22	20	1	3	3
1883	135	16	28	3	2	3
1884	167	15	29	1	3	7
1885	184	35	30	2	3	5
1886	210	31	36	4	6	6
1887	266	40	31	4	7	11
1888	289	37	35	4	7	6
1889	310	38	28	11	9	7
1890	298	34	32	12	7	5
1891	307	59	36	15	9	7
1892	320	59	32	14	11	5
1893	312	51	40	13	7	8
1894	465	53	31	17	7	5
1895	324	67	41	3	8	10
1896	393	64	40	10	8	8
1897	334	79	29	15	5	7
1898	355	87	33	21	4	4
1899	332	75	21	8	12	8
1900	344	99	24	16	4	8
1901	498	106	40	16	7	9
1902	451	135	39	28	8	7
1903	451	111	48	26	12	8
1904	596	146	45	30	27	4
1905	679	135	48	19	38	10

The very great expansion of the trade of the Port, which it is expected will continue year by year owing to the very extensive irrigation projects now in hand in the Punjab and under survey in Sind which are to cost, so far as the Punjab is concerned, nine and a half crores of rupees, has rendered it necessary for the Port Trustees to increase and extend the facilities of the Port to meet the requirements of trade, and with this end in view a Committee of experts was appointed by Government at the request of the Trustees, and a scheme has been formulated by the Port Trustees which has now been finally decided upon, as follows :—

Extension of and improvements to the wharfage to accommodate fifteen large steamers, a passenger basin, overbridge, etc., costing 45 lacs. A new Export yard on the Queen's Road with an area of 150 acres, and a new Import Yard costing 55 lacs.

A Loan of 45 lacs has already been sanctioned by the Government, to be raised as required for the extended wharfage, etc.; and this work will be taken in hand at once, and the work in connection with the Export Yard and Import Yard as soon as may be possible.

With all these projected improvements completed, Karachi will continue to maintain its position of being, in point of importance, the third port in India. It is the natural seaport of Sind, Baluchistan, Afghanistan, the Punjab, Rajputana and the trooping port for the whole of Northern India. It is nearer to Aden than Bombay by 205 miles and by over 400 miles nearer to Bassorah and Koweit, the future terminus of the Euphrates Valley Railway at the head of the Persian Gulf. Two important improvements are now awaited—the extension to Karachi of the Metre Gauge systems of Rajputana and Northern India that now stop at Hyderabad and the establishment of a direct Mail service with Europe, by the linking up of Karachi with Aden,—matters that have been continuously advocated by the Chamber and which, when completed, will add greatly to the conveniences and facilities which the port of Karachi now affords.

Chairmen of the Chamber.

The following gentlemen have presided over the affairs of the Chamber since its establishment in 1860 :—

Mr. D. McIver (senr.), Messrs. McIver & Co., 1860-61, Mr. A. Stewart, of Messrs. Finlay & Co., 1861-62, Mr. W. Nicol, Messrs. Fleming & Co., 1862-63 and 63-64, Mr. A. E. Denso, Messrs. Volkart Bros., 1864-65 and 65-66, Mr. W. G. Hall, Messrs. Fleming & Co., 1866-67 and 67-68, Mr. I. G. Tindall, Messrs. Fleming & Co., 1868-69 and 69-70, Mr. Max Denso, Messrs. Volkart Bros., 1870-71, 71-72, 76-77, 80-81, and 85-86, Mr. A. McHinch, Messrs. A. McHinch & Co., 1878-79, 79-80, 84-85, 87-88, and 89, Mr. W. Thorburn, Messrs. Fleming & Co., 1873-74 and 75-76, Mr. W. M. Macaulay, Messrs. Fleming & Co., 1874-75, Mr. James Grant, Agent, Bank of Bombay, 1881-82, 82-83 and 83-84, Mr. A. Thole, Messrs. Volkart Bros., 1885-86 and 86-87, The Hon'ble Mr. James Currie, Messrs. James Currie & Co., 1890 to 1894, The Hon'ble Mr. T. R. McLellan, Messrs. T. R. McLellan & Co., 1895 to 1898, The Hon'ble Mr. T. L. F. Beaumont, 1899, The Hon'ble Mr. D. McIver, Messrs. McIver, Mackenzie & Co., 1900-02, The Hon'ble W. T. O'Brien, Messrs. Ewart, Ryrie & Co., 1903, The Hon'ble Mr. M. de P. Webb, C.I.E., 1904 to 1906.

It may be mentioned that of the firms original members of the Chamber, only one, Messrs. Volkart Bros., now remains on the rolls. The total membership is now 45.

The present Committee of the Chamber consists of the following gentlemen :—

The Hon'ble Mr. M. de P. Webb, C.I.E., Chairman, Messrs. Forbes, Forbes, Campbell & Co., Ld., Mr. D. McIver, Vice-Chairman, Messrs. McIver, Mackenzie & Co., Mr. T. A. Agelasto, Messrs. Ralli Brothers, Captain H. F. E. Freeland, R.E., District Traffic Superintendent, N.-W. Railway, Mr. C. Percy Jones, Messrs. Sanday Patrick & Co., Mr. W. Graham, Messrs. Donald Graham & Co., Mr. J. E. Penrose, Messrs. Finlay, Muir & Co., Mr. L. B. Stephens, The Bombay Company, Ld., Mr. T. J. Stephen, The National Bank of India, Ld., Mr. L. Volkart, Messrs. Volkart Brothers. Secretary, Mr. C. H. Chetham. Public Measurer, Captain R. Taunton.

Commercial & Industrial.

Messrs. A. AGELASTO & CO., Merchants, Calcutta. Established in 1867 by the late Augustus Agelasto. The present partners are John Negroponto, Mrs. J. Agelasto and E. C. Apostolides. Messrs. Agelasto & Co. carry on a large Import business, principally in Manchester goods, but also in Continental and London merchandise.

Mr. EMMANUEL C. APOSTOLIDES (*Lt.-Col., Calcutta Light Horse*), is the resident partner in the above firm. Mr. Apostolides is Greek by birth, having been born in Sparta. He was educated partly at Athens, but proceeding to London at the age of sixteen completed his studies in England. At home he became associated in mercantile pursuits with Messrs. Agelasto & Co., in the export trade, and came out to India in the year 1880 to join their export branch, and finally entered their piece-goods department. He was admitted a partner of the firm in 1903. At the present time he is entrusted with the management of their whole local business, which is extensive, and embraces the whole of India. Mr. Apostolides was nominated Consul-General for Greece some five years back. He is well known in Calcutta as a thorough all-round sportsman, and throughout his Indian career he has taken the keenest interest in volunteering. Within a short time of his arrival in the country he had taken up the movement seriously and first attached himself to A Company of the Calcutta Volunteer Rifles. When the Calcutta Mounted Infantry was formed in the year 1882, Mr. Apostolides was among the first to join that body. When this body developed into the Calcutta Light Horse, Mr. Apostolides became a sergeant in that crack volunteer corps. His energy in volunteering matters was rewarded with a commission in 1895. He passed through the various commissioned grades till he rose to be Major in 1902, and on the departure of Col. Henry he obtained the rank of Lieutenant-Colonel and the command of the Calcutta Light Horse, in which he had served so long and well. He possesses the

E. C. APOSTOLIDES.

V. D. for long service. Mr. Apostolides displays the same energy and interest in all forms of Indian sport; he is the Honorary Secretary of the Calcutta Polo Club, which was founded in 1862, and is one of the oldest Polo Clubs in existence in the world. He is an active polo player to the present day, and takes great interest in the fixtures, as well as in racing, hunting, and all forms of exercises of this nature.

Messrs. ALDRIDGE, SALMON & Co., Ltd., Merchants, Bombay, were first known in that city as Aldridge & Blackwell and were established about 1840, and under this name the business was carried on for many years. The title of Aldridge, Salmon & Co. was assumed about 1870 for the Bombay Branch when Mr. Blackwell retired and Mr. Salmon joined the firm, and J. F. Aldridge & Co. became the London firm. Mr. Aldridge retired in 1881. In 1894 the firm was turned into a Limited Company with offices in Bombay and London. The head office is in London, at 4, Fenchurch Avenue; the Chairman and Managing Director being Mr. John Ellis Dudley, Capt. Fredrick Marshall, a Director, and Mr. Cecil Smith, Secretary.

Mr. Burjorjee Framjee is the Manager of the Bombay office and has been connected with the firm for nearly 27 years; his brother, Mr. D. Framjee, having previously filled the post of Assistant Manager.

Messrs. Aldridge, Salmon & Co., Ltd., deal largely in various kinds of merchandise, piece-goods, hardware, chemicals, wines and spirits, etc.

Messrs. ALCOCK, ASHDOWN & Co., Ltd., Engineers and Contractors, Bombay.

Defence Engineering Works—Mazagon.

Carnac Iron Works—Carnac Bunder.

This business was founded in

1880 by Mr. Isaac Alcock, Mr. R. G. Ashdown, Mr. J. W. Hepworth, and Mr. J. M. Drennan as partners, trading under the name of Alcock, Ashdown & Co. In 1884 the business was turned into a limited liability company under its present title, with a capital of Rs. 3,50,000, the business being carried on at the Defence Works, Mazagon, where all kinds of iron, mill-wright, and ship-work was produced, the Secretaries and Managers being Messrs. Alcock, Ashdown and Hepworth. The branch factory, "The Carnac Iron Works," opposite the Victoria Docks, was purchased by the Company in 1889 from Mr. D. Longworth, then sole proprietor. These works were founded in 1860 by Messrs. Fraser and Miller, as an ironfounding, general engineering, and marine engine works. In 1890, owing to the success of the business, half of the share capital was paid back to the shareholders, and the capital now stands at Rs. 1,75,000.

The present Secretaries and Managers are Mr. J. W. Hepworth and Mr. D. Longworth. The firm has paid a dividend of 18 per cent. for the last three years on the present reduced capital, while the reserve fund stands at Rs. 2,80,000. The Carnac Iron Works have, during the last year, been entirely remodelled and rebuilt, and are furnished with extensive office accommodation, in which it is intended that the main business of the Company will be carried on.

At present the number of men regularly employed at the Defence Works, Mazagon, is between 400 and 500, and at the Carnac Works about 150, but when heavy shipping repairs are being executed, 200 to 300 extra men are often employed. Amongst the great variety of work turned out by the firm, may be mentioned large cast iron and brass castings, such as stern tubes, propellers, etc., large rope driving pulleys for mills, with shafting and all kinds of mill-wright work. Steam launches built of wood or steel, and engines and boilers for the same are constructed at these works. All kinds of constructional steel work is made, such as roofing, tanks, chimneys, bridges and boilers, while heavy forgings are turned out, such as ships' stems, keels, etc. Some of the heaviest repairs to the hulls and framework of steamers have been successfully carried out; as both works are situated close to the Merewether Dock, they afford special facilities for this class of work.

The ALLIANCE BANK OF SIMLA, Limited, commenced business at Simla, on the 23rd of March 1874, under the management of Mr. James Walker, and it is not too much to say that owing to Mr. Walker's ability and tact, it soon became a prosperous institution. The Bank was started to take the place of the United Bank of India, Ld., an institution which commenced business at Simla and Umballa in 1866, with Mr. C. H. Levinge as Manager. This Bank never attained much success, and in October 1873, Mr. Walker, then Assistant Secretary of the Simla Bank Corporation, was invited by the Directors to take the management in place of Mr. Levinge, in the hope of retrieving the Bank's fortunes. Matters, however, had gone too far for this object to be accomplished, and on the recommendation of Mr. Walker, the United Bank was placed in Voluntary Liquidation on Saturday, the 21st March 1874, the Alliance Bank commencing business on the Monday following. It had been arranged that all the good business of the old Bank should be taken over by the new Bank, the shareholders of the former getting 50 per cent. of their capital of 2½ lacs in shares of the new Bank.

Capital.

The Alliance Bank of Simla, Limited, started with a capital of 5 lacs—2½ lacs was issued to commence with. Half was taken up by the public and the other half was allotted to shareholders of the old United Bank of India, as shown above. The remainder of the 5 lacs was issued as follows:—1½ lacs on 1st October 1877, and 1 lac on 1st May 1878. In 1891, the capital of the Bank was increased to 10 lacs; and in 1904 to 15 lacs—at which figure it now stands. The capital is divided into shares of Rs. 100 each—the present market price being Rs. 250 each.

Reserve.

The Reserve Fund has been regularly and steadily increased year by year since the Bank commenced operations and now amounts to 20 lacs, which is invested in Government Paper.

Dividends.

Since its formation the Bank has paid steady Dividends increasing from 7% in the first year to 12% which it is now dividing.

Working Capital.

At the end of the first half-year, namely 31st December 1874, the working capital stood at Rs. 3,37,000. This has increased year by year till the working capital now amounts to Rs. 3,63,32,600. From these figures it will be seen that the Bank has grown into a large and powerful institution.

Branches.

The Alliance Bank of Simla, Limited, was, in the first instance, intended as a local institution, but on the failure of the Punjab Bank, it was decided to secure as much of that Bank's business as possible. The Alliance Bank was appointed Liquidator of the Punjab Bank and branches were opened at Murree on the 10th July 1877, Rawal Pindi 6th August 1877, and Lahore 16th January 1878. Subsequently branches were opened at Umballa on the 14th July 1885, and Cawnpore on the 1st December 1887. The Alliance Bank was appointed Liquidator of the Himalaya Bank and opened a branch at Mussoorie on 21st August 1891. The Alliance Bank also liquidated Lloyds Bank, Darjeeling, and opened a branch there on 1st January 1896. As the Bank's business progressed, branches were also opened at—

Calcutta	on	15th	October	1889.
Ajmere	,,	2nd	February	1891.
Agra	,,	1st	February	1894.
Bombay	,,	16th	February	1903.

Directors.

The first Directors of the Bank were—

Col. T. D. Colyear.	Mr. Geo. M. Bryan.
Mr. C. Shepherd.	Mr. H. G. Meakin.

The following gentlemen subsequently served for various periods on the Board:—

Mr. P. Mitchell, C.I.E.	Mr. H. B. Goad.
Mr. L. J. Arathoon.	Mr. K. Murray.
Mr. A. E. Dyer.	

All since deceased—and Col. J. Robertson, C.I.E., and Mr. R. Dixon, both of whom are retired, and are now living in England.

The present Directors are :—

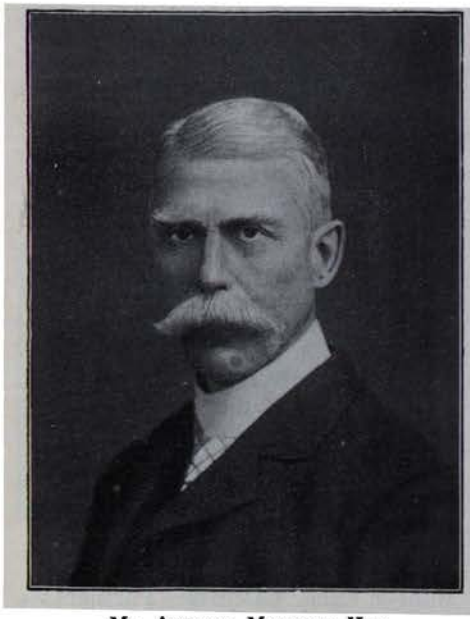
Sir James Walker, C.I.E., Chairman.	Mr. E. J. Buck.
Mr. J. Elston.	Mr. B. Bevan Petman.
Mr. A. M. Ker.	Mr. D. E. McCracken.

The Auditors are Messrs. Meugens, King & Simson, Chartered Accountants.

STAFF.

Sir James Walker retired from the management on 1st April 1891. Mr. A. M. Ker who had officiated as Manager on two or three occasions previously, was then appointed Manager in his place. The following is the present staff of the Bank :—

Head Office, Simla.	Mr. A. M. Ker, Manager (and a Director).	
	Mr. T. S. Bean, Deputy Manager and Accountant.	
	Mr. W. D. Henry, Assistant Manager.	
Calcutta	Mr. W. A. Langdon	Agent.
Bombay	Mr. H. P. Stringfellow	,,
Agra	Mr. J. B. Macdonald	,,
Ajmere	Mr. J. F. Maxwell	,,
Cawnpore	Mr. W. A. M Latley	,,
Darjeeling	Mr. D. S. Murray	,,
Lahore	Mr. M. Macrae	,,
Mussoorie	Mr. G. L. Kemp	,,
Murree	Mr. W. R. Cox	,,
Rawal Pindi	Mr. G. M. Butler	,,
Umballa	Mr. J. P. Dalzell	,,



Mr. ARTHUR MILFORD KER.

Mr. ARTHUR MILFORD KER, General Manager of the Alliance Bank of Simla, was born in 1852 and educated at Harrow. Mr. Ker began his career in the British Linen Company's Bank, Edinburgh, in 1869, and after serving his apprenticeship for five years, he joined the service of the Bank of Bombay and came out to India in 1874, serving with that Bank in Bombay until 1880, when he joined the service of the Alliance Bank of Simla as Agent at Lahore.

Mr. ARTHUR STUART ANDERSON.

Mr. Ker's services in his new sphere were greatly valued and recognised, and in 1891 he was appointed Manager of the Bank, having previously officiated for some time. He became a Director of the Bank in 1900.

He has been on the Directorate of the Standard Life Assurance Company for 20 years and has given considerable attention to several Indian Industrial concerns in which he has interests.

He has devoted his 30 years in India to his work and business with the result that one has now only to point to the Alliance Bank to understand his sterling worth. The Bank has grown from a local institution to one that has many branches throughout India. Mr. Ker is a son of the late General T. D. Ker, of the Indian Army, a Mutiny Veteran and well known in his day in the Western Presidency of India. Mr. Ker married in 1881 Constance, daughter of the late Mr. P. Mitchell, C.I.E., and has one son, who is an officer in the Gordon Highlanders.

Mr. ARTHUR STUART ANDERSON, of the firm of Anderson & Co., stock and share brokers, was born in Glasgow in the year 1852. He was educated at the Glasgow Academy and served a short apprenticeship in that city before coming to India in 1873 to join the firm of D. T. Shaw & Company. From '81 to '83 he was associated with George Henderson & Company, and since has conducted his own business.

Messrs. JAMES ANDERSON & Co., Wine and Spirit Merchants, 7, China Bazar Lane, Calcutta.

Messrs. Anderson & Co. is a very old Calcutta business having been originally established in the year 1828. In the seventies or eighties it was taken over by Mr. D. H. Moses who conducted it till the year 1888 in his own interest. In that year, on Mr. Moses' decease, Mr. A. E. Gubbay succeeded him as Managing Director, and under his able and vigorous direction the firm has come in the front of the leading Import Houses. Messrs. James Anderson & Co. do a very extensive business in their specialities throughout the Presidency towns and the Mofussil. Their large three-storied premises in China Bazar extend over about two bighas of land. They have there available for storage purposes some 30,000 square feet of storing space, which is amply taken advantage of by the firm, for as much as 16,000 gallons of wines and spirits in the wood, and 20,000 dozen of bottled wines and beers are stocked in their storehouses. The need for these heavy stocks is apparent when the firm's monthly transactions amounting to 4,000 dozen of wines and spirits and up to 7,000 dozen of beers are considered. The customers of the firm, including the Indian Commissariat, extend throughout Bengal, United Provinces, Punjab, Central India, Assam and the Madras Presidency. Messrs. James Anderson & Co. obtained a Diploma for excellence of quality at the Vienna Universal Exhibition of 1873. Mr. Gubbay, the Managing Partner, is also largely interested in house property.

The Hon'ble Mr. A. A. APCAR, C.S.I., President of the Bengal Chamber of Commerce, was born in Calcutta in 1851. He is the son of the late Alexander Aratoon Apcar of the well-known family that founded the

Mr. A. A. APCAR.

firm of Apcar & Co., so widely known throughout the East. Mr. Apcar was educated in England and came out to India in 1869 to join the firm of which he is a partner. He has actively associated himself with public life in Calcutta, finding time from his important business duties to interest himself in many movements. As a member of the Chamber of Commerce he was for many years on the Committee of that body. He has held the important office of Vice-President, was President in 1903 and 1904 and re-elected for 1905 and 1906. For three years he has been a Member of the Council of the Lieutenant-Governor of Bengal. He has been a Member of the Calcutta Port Commissioners, and has shown the highest ability in the public service. The commercial life of Bengal naturally has claimed much of his attention. The firm of Apcar & Co. has wide interests and many ramifications. Messrs. Apcar & Co. are actively interested in coal mines near Asansole and very largely in jute and the carrying trade of this port.

Mr. Apcar is very well known to the general public of Calcutta in his position of, practically, the leading sportsman. He is a Steward of the Calcutta Turf Club and has always taken the keenest interest in racing. On the Turf he has been remarkably successful, having four times won the Viceroy's Cup: in 1884, 1891, 1903 and in 1904. There are also many other leading events standing to his credit. Throughout his career his name has stood for all that is best in sport, and he is conspicuous among the sportsmen who have done much for racing in India. He is also keenly interested in cricket, and for a long time has been a member of the Calcutta Cricket Club. Mr. Apcar is the Consul for Siam.

Mr. Apcar was appointed Sheriff of Calcutta in December 1905, and received the decoration of C.S.I. in January 1906.

Mr. ALECK APCAR, Merchant, Agent, Civil Engineer and Contractor. Mr. Apcar was born in India in the year 1848 and educated at Harrow. He is the eldest surviving son of the late Apcar Arratoon Apcar and eldest surviving grandson of Arratoon Apcar, the founder of the firm of Apcar & Co. After finishing his education in England, he returned to India and joined his father's office and was with Messrs. Apcar & Co. for a short

Mr. ALECK APCAR.

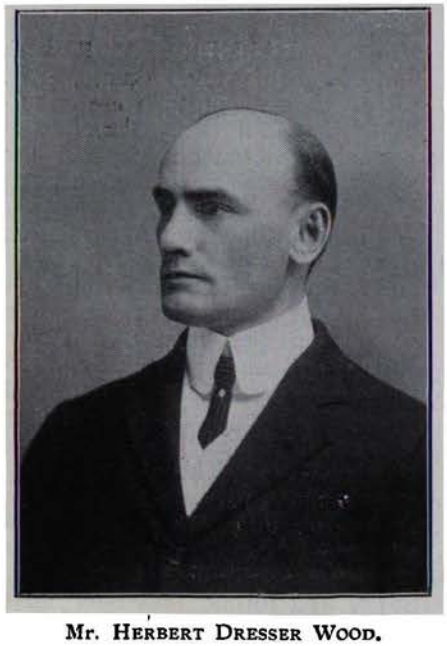
while. In 1870 he left the firm and started business on his own account. He owned steamers and tugs, the steam passenger and cargo service between Calcutta, Balasore, Ghatal, and Midnapore being due to his initiative. The service, however, not proving financially successful, Mr. Apcar was compelled to sell his steamers and tugs, and for several years experienced great difficulties. He then started business as a Civil Engineer, Builder and Contractor, which he now continues. He has his own brickfields in connection with his building works.

Mr. ARATOON GREGORY APCAR, of the firm of Messrs. Apcar & Co., was born in Calcutta on November 4th, 1827. He is a son of Gregory Apcar of the original firm of A. and G. Apcar, which was established in Bombay in the early part of the nineteenth century, by the two brothers Aratoon and Gregory Apcar. In 1826 the brothers transferred the firm to Calcutta and since then it has developed considerably. There are now two partners in the business, Messrs. Aratoon Gregory Apcar and the Hon. Apcar Alexander Apcar, C.S.I. The firm, besides its shipping business, is largely interested in Jute and Coal. They are the agents for the Seebpore Jute Manufacturing Company, which employs about 5,000 hands, and are the proprietors of the four China Steamers, "Lightning," "Catherine Apcar," "Aratoon Apcar," and "Gregory Apcar." Messrs. Apcar & Co. are also proprietors of the Albion Foundry, Seebpore, and of Apcar & Co.'s collieries at Charanpore and Sitarampur. The control of this extensive business naturally demands the closest attention and ability. As already mentioned, the original partners were Aratoon and Gregory Apcar. On the admission of the four sons of the senior Aratoon Apcar into partnership, the name of the firm was changed to "Messrs. Apcar & Co." Mr. A. G. Apcar was admitted a partner in 1852, and is now the senior partner of the firm. He has two sons, J. G. Apcar, Barrister, and Gregory Apcar in the firm, and two daughters.

Messrs. JAMES ARBUTHNOT & Co., Jute Brokers and Agents, 3, Mangoe Lane, Calcutta. Partners: James Arbuthnot and G. H. L. MacKenzie. The firm are agents for the London, Liverpool & Globe Insurance Co., Ld., and Messrs. G. MacKenzie & Co., Khoraid, Ellashin, and Mymensingh.

The ARRACAN COMPANY, Limited, Merchants, and Shipping and General Agents, 26, Dalhousie Square, Royal Insurance Buildings, were established in Calcutta in 1887. They deal principally in rice, sugar, timber, gunnies and jute, and are Agents for the Bibby Line of Steamers, The Anandpur Trading Company, The East India Stone Company, Messrs. White and Mackay, and Alexander Stewart & Sons. The firm have branches at Rangoon (head office in the East), where they have four working rice mills; at Bassein with two rice mills; and at Akyab with two mills, and at Moulmein and Bangkok with one rice mill apiece. Their Arracan Flotilla Company at Akyab works and maintains the river service and carries the mails.

Mr. HERBERT DRESSER WOOD, Manager of the Calcutta house, was born in England in 1870, and educated at Liverpool College. He first joined Messrs. Thompson, Anderson and Company, Liverpool, East India Merchants and Shipowners, and remained in their service from 1889 to 1893, when he came out to join the Arracan Company as an Assistant. His next step was that of Sub-Manager, before his promotion to Manager in April 1904. Mr. Wood is a strong believer in athletics.

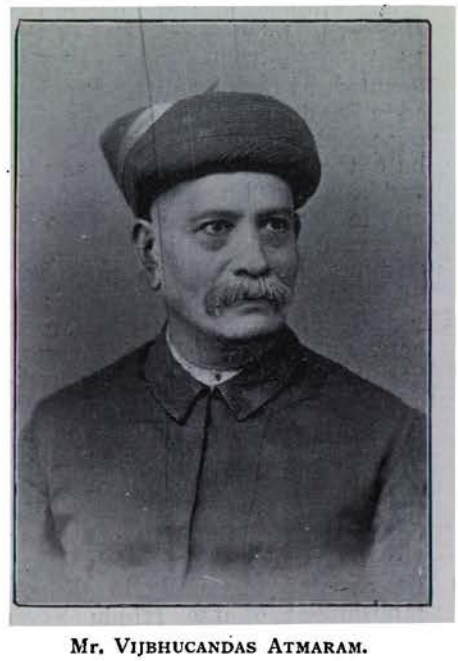


Mr. HERBERT DRESSER WOOD.

Mr. HERBERT SHORROCK ASHTON (*Captain, Cossipore Artillery Volunteers*), is the senior resident partner of the firm of Messrs. Shaw, Wallace & Co., Merchants and Agents, No. 20, Strand Road, Calcutta. He was born in the year 1862, at Darwen, Lancashire, and educated at Uppingham. His first business experience was gained in cotton mills in Lancashire, where he served for some five or six years. He came to India in 1883 to join the firm of Messrs. Carlisles Nephews & Co., merchants of Calcutta, with whom he was engaged for about five years. Mr. Ashton joined his present firm, Messrs. Shaw, Wallace & Co., in the year 1888, in the capacity of Assistant. In this position he remained till the year 1891 when he became a partner in the same firm. Messrs. Shaw, Wallace & Co. are largely interested in the trade of Calcutta, especially in oil, cotton piece-goods, and tea, and hold many important agencies. In these matters, Mr. Ashton's experience has stood them in good stead. In Calcutta tea affairs he has been particularly active having served on the Committee of the Indian Tea Association for many years. He was Chairman of the Indian Tea Association for two years in succession, years which are numbered among the most active in the existence of that organization. He has also held the position of Chairman of the Indian Cess Committee, an organization established practically as the offshoot of the Indian Tea Association, under the sanction of Government, for the purpose of administering the funds raised by a small export tax or cess levied on tea, for the purpose of providing money for the spreading of its use in foreign countries. Mr. Ashton has served as a member of the Calcutta Port Commissioners and is a Fellow of the Calcutta University. He takes a keen interest in Volunteering, and is Captain in the Cossipore Artillery Volunteers with 22 years' service. As a sportsman Mr. Ashton is well known in Calcutta, and was formerly Captain of the Calcutta Football Club under Association rules. At home he played for his County, Lancashire.

Mr HERBERT SHORROCK ASHTON.

Mr VIJBHUCANDAS ATMARAM, Bombay, who belongs to the Modh Bania caste, was born in Bombay in January 1840. His parents were comparatively poor, but the family were highly respected by all classes. Mr. Vijbhucandas studied at the Elphinstone Institute, Bombay, but circumstances compelled him, at the somewhat early age of eighteen, to relinquish his studies. He joined the well-known firm of Messrs. Dossabhoy



Mr. VIJBHUCANDAS ATMARAM.

Merwanji & Co. as a clerk, leaving them after a service of eight years. For a few years after the commercial crisis of 1860 Mr. Vijbhucandas carried on business in partnership with the firm of Messrs. Morarji Cursondas as guarantee brokers to Messrs. A. J. Kinloch & Co.; and subsequently started business on his own account with Mr. Narandas Purshotomdas, acting also for some time as guarantee-broker to Messrs. W. M Macaulay & Co. and later on to Messrs. J. C. Bushby & Co.

After a few years Mr. Rajaram Govindram was admitted as a partner, and the firm has since been known as Messrs. Narandas, Rajaram & Co. with Mr. Vijbhucandas now as senior partner. They do business in cotton, wheat and seeds, and have several branches in the Mofussil and in the United and Central Provinces. They are agents also for several pressing and ginning factories in business centres, and Mr. Vijbhucandas likewise owns, and has the agency of, spinning and weaving mills. He has also taken up the business of guarantee brokers to Messrs. Greaves, Cotton & Co.

Mr. Vijbhucandas was one of the Honorary Joint Secretaries of the Ilkal Famine Relief Fund and was deputed, by the Committee appointed in Bombay for the relief of suffering people in Ahmedabad, to distribute the funds amongst those who had been ruined by the floods in that city in 1875. In 1883 and 1889 he convened public meetings and organized measures for the collection and distribution of the Surat Flood and Fire Relief Funds. For the former he was appointed a Joint Honorary Secretary and for the latter he worked on the Executive Committee. He worked as a volunteer during the first year of the plague in Bombay in 1897, and for the following two years was the Chairman of the Committee of the Mugbhat and Kumbharwada Plague Volunteers. He assisted materially in the establishment of the Hindu Fever Hospital as well as a separate Plague Hospital for his own caste men.

Mr. Vijbhucandas was made a Justice of the Peace in 1882 and has been acting as an Honorary Magistrate since the creation of that Bench. Since 1891 he has been on the Board of the Trustees of the Port of Bombay. During the Hindu-Mahomedan Riots of 1893 he was appointed by Government a member of the Committee formed to consider the question of the increase of the Bombay Police Force. In 1898 he was summoned to give evidence before the Indian Famine Commission, and on February 9th of the same year he was appointed an Additional Member of the Legislative Council.

As a leading Native Merchant and a Port Trustee he gave evidence before the Railway Commission appointed in 1899 by the Supreme Government to inquire into the details of the proposed Port Trust Railway. He is a Director of several Mills, Presses, Railways, Mining and Manufacturing Companies, and is connected with various charitable institutions. As a shrewd business man, he occupies a respected position in the mercantile world, both European and Native.

Mr. Vijbhucandas holds advanced views in the matter of social reform, disapproves of early marriages, is a staunch advocate of education and inter-marriage between the various sections of his community, and is a busy and useful member of society.

BALBEER MILLS, Dehra Dun, United Provinces. Proprietors, Kanwar Balbeer Singh and Kanwar Tegh Bahadur Singh. The present proprietors established these mills in the year 1900, laying down extensive modern machinery for the treatment of rice, flour grinding, oil pressing, and ice making. They also turn out crushed oats and ground grain, etc. The mills stand on freehold property in the possession of the proprietors.

Mr KANWAR BALBEER SINGH

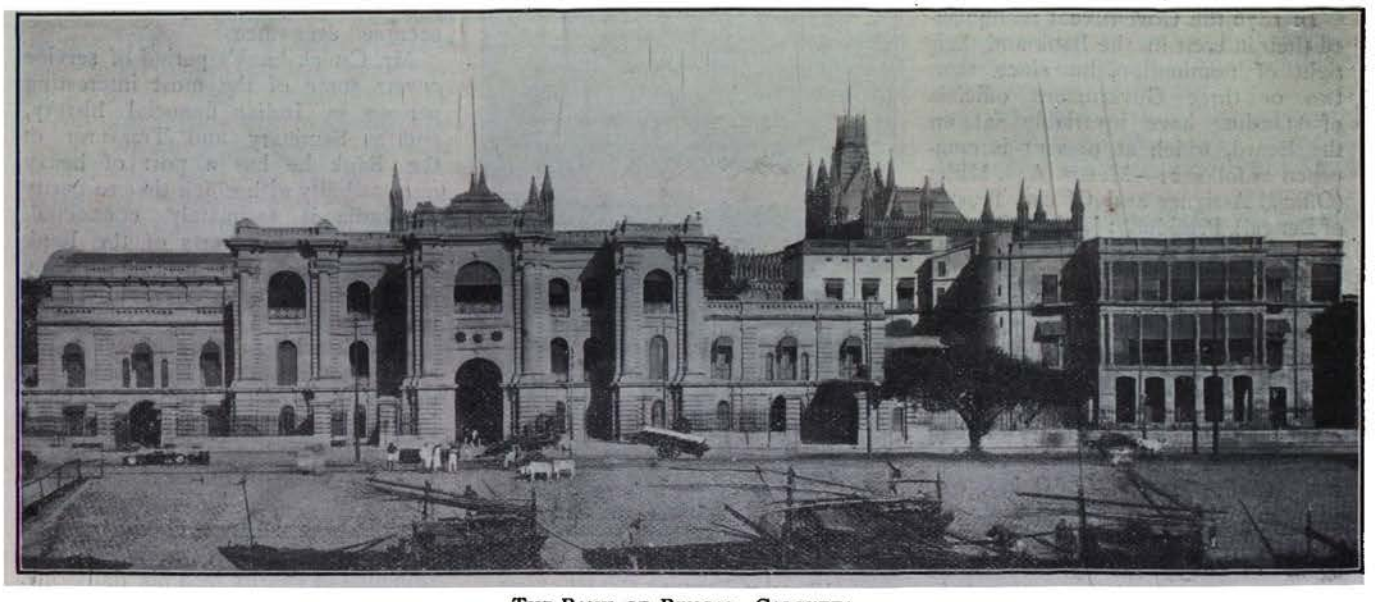
KANWAR BALBEER SINGH, Proprietor, Balbeer Mills, Dehra Dun, was born in the year 1860 at Dehra Dun, being the second son of the late Raja Lal Singh Bahadur, Rehtasya, who was Prime Minister at Lahore during Maharaja Dhulip Singh's time and Rajah of Rehtas. Kanwar Balbeer Singh was educated at an English School at Mussoorie. He is in receipt of a small political pension from Government. He obtained most of his commercial experience during travels to various parts of Europe and India, Burma and Ceylon. In 1900 in partnership with his brother K. T. B. Singh, he established the above mills at Dehra Dun. Kanwar Balbeer Singh is a proprietor of house and landed property at Dehra Dun and Mussoorie, and member of the District Board, Dehra Dun.

Messrs. BALMER, LAWRIE & Co., Merchants and Agents, 103, Clive Street, Calcutta, were established in 1866. Mr. Alex. Lawrie has always been and is still the senior of the firm, the other partners being Messrs. J. N. Stuart, John Gemmell, George A. Ormiston, A. Cecil Lawrie, P. B. Lawrie and Arthur Preston. They represent three Coal Companies raising over 50,000 tons per month, a Paper Mill at Raniganj producing 400 tons per month, a Flour Mill giving an output of 100 tons flour daily, and Ice Factoies producing 60 tons daily. They import over 70,000 tons salt annually and are the leading importers of galvanised corrugated iron and cement, also importing largely metals generally, joists, and other materials used in constructional work. They stock several important lines of machinery and represent some of the leading Engineering firms at home. They conduct electrical work on a large scale throughout India, and have carried through successfully many important installations. They have large interests in Tea in Assam,

Cachar and Darjeeling, and are one of the leading shippers to all parts of the world. Through the Anglo-Indian Carrying Co. they undertake the receipt of packages from and shipment to all parts of the world, and arrange passages. They represent Life, Fire and Marine Insurance Offices, while in their Banking and General Department they undertake banking, share and general agency business.

Their London house is Messrs. Alex. Lawrie & Co., 14, St. Mary Axe, E.C.

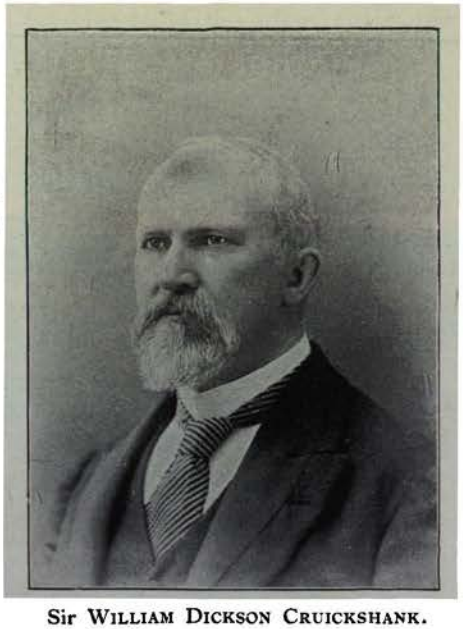
The BANK OF BENGAL.—This Bank, which occupies in Bengal a position analogous to that of the Bank of England at Home, was founded as far back as 1st May, 1806. It was then called the "Bank of Calcutta," but no Charter was granted until the 2nd January, 1809, when its name was altered to the present designation. This Charter was renewed on 29th May, 1823, and in 1839 a new Charter was granted. The next Charter was under Act IV of 1862, which was amended by Acts VI of 1862 and XIX of 1870. The Act of the Legislature under which the Bank is now constituted is the Presidency Banks Act (XI of 1876), and this Act enabled the Government to sell its shares and surrender its power to appoint three of the Directors of the Bank; it also limits the liability of the shareholders, provides that there shall not be less than six nor more than nine Directors, and defines the business that the Bank may carry on. The Capital of the Bank when first started in 1806 was (sicca) rupees fifty lakhs, of which Government held stock to the nominal value of ten lakhs (sicca) rupees. In 1836 the amount of the shares was reduced from Rs. 10,000 to Rs. 5,000 each. Several changes in the amount of the Capital were made from time to time, until in 1876, the Capital was reduced by the withdrawal of the Government as Shareholders, to Rs. 2,00,00,000, and the shares to Rs. 500 each, at which figures they now remain. When the Bank was first established it enjoyed the privilege of circulating its own notes, provided that its total liabilities to the public never exceeded the amount of its capital of fifty lakhs of rupees, but in 1823 this limit was removed and the Bank allowed to issue notes up to two crores in all, and though on one occasion the amount was exceeded the average note circulation was about one crore and sixty lakhs of rupees. Under Act XIX of 1861 Government withdrew the right of issue from the Bank and created the Paper Currency controlled by the State. On the 1st March, 1862, the Government Treasury was transferred to the Bank and its Branches, and in 1866 the Public Debt Office followed, and the management of these two important public departments has remained with the Bank since. At first the necessity for building up a Reserve Fund does not seem to have been realized by the Directors, and it was not until Mr. Hardie became Secretary and Treasurer in 1872 that he made it his business to build up this Fund, as between then and 1888 it rose from 15 lakhs to 54½ lakhs of rupees, and now stands at Rs. 1,32,00,000. In 1861 the Bank had no branches in the mofussil, but on the issue of the new Charter, and the advent of the Government Treasury business, branches were opened, and at the present time the Bank has seventeen branches: situated at Agra, Akyab, Allahabad, Benares, Burra Bazar (Calcutta), Cawnpore, Dacca, Delhi, Hyderabad (Deccan), Jalpaiguri, Lahore, Lucknow, Moulmein, Nagpore, Patna, Rangoon and Serajgunge. In 1867 the Bank opened an Agency in Bombay, and though this was resented by certain shareholders of the new Bank of Bombay, and a memorial presented to Government in 1868 praying that the Agency might be withdrawn, the prayer was not granted and the Bank of Bengal still retains its Agency in the Western Capital. On only one occasion, namely, for the half year ended the 30th June, 1834, has no Dividend been declared, and this arose through a fraud being practised on the Bank, whilst on all other occasions Dividends averaging



THE BANK OF BENGAL, CALCUTTA.

about 10% have been paid, rising on one occasion to 21½% (in 1836). As a consequence shares in the Bank are a very favourite investment, and the price of a 500-rupee share now stands at about Rs. 1,340 to Rs. 1,346. In 1874 the Bank opened a Gratuity and Pension Fund for Members of its Staff, and it may be added that the Bank have always treated their deserving servants liberally. The first Board of Directors was constituted in 1808, and consisted of Henry St. George Tucker, President, William Egerton, Richard Waite Cox, nominated by the Government; and Alexander Colvin, John Palmer, George Tyler, James Alexander, John W. Finon, and Maharajah Sookmoy Roy, elected by the Shareholders on the 15th December, 1808.

In 1876 the Government relinquished their interest in the Bank and their right of nomination, but since then two or three Government officials of standing have invariably sat on the Board, which at present is composed as follows:—Messrs. A. B. Miller (Official Assignee and Official Trustee of Bengal), President; J. M. G. Prophit, Vice-President; H. Bateson, R. H. A. Gresson, W. R. T. Aitken, J. C. Shorrock and H. T. Hyde (Administrator-General of Bengal). The first Secretary and Treasurer of the Bank was Mr. J. W. Sherer, C.S. He was succeeded in 1809 by Mr. W. Morton, C.S., then came Mr. Henry Wood, C.S., in 1815; Mr. Charles Morley, C.S., 1816; Mr. W. H. Oakes, C.S., in 1821; Mr. C. T. Glass and Mr. W. H. Oakes in 1822; Mr. Glass again in 1823; Mr. J. A. Dorin, C.S., in 1826; he being relieved in 1828 by Mr. Glass who acted until Mr. Dorin's return in 1829; and Messrs. Richard and George Udny, C.S., in 1830. Mr. George Udny resigned in 1839, and Mr. Thomas Bracken, a gentleman of considerable mercantile experience, was appointed. The Government Directors protested against the appointment being withdrawn from the Civil Service, and the allowance paid by Government towards the Secretary's salary was stopped. In 1847 Mr. Bracken was succeeded by Mr. Charles Hogg, and in 1851 Mr. (afterwards Sir William) Grey, C.S., was appointed, and he was the last of the Civilian Secretaries, with the exception of Mr. W. Maples who acted for one month only in 1854. In 1854 Mr. J. B. Plumb, the Deputy Secretary, was promoted Secretary, and on his resignation in 1859 the Directors brought out from Scotland Mr. George Dickson, Secretary of the Caledonian Banking Company, to fill the important appointment. He retired in 1872, having during his term of office greatly enlarged the scope of the Bank's work, and earned the highest encomiums from the Directors. He was succeeded by Mr. Robert Hardie, whose management was an eminently successful one, and during his incumbency the Bank dividends averaged over 9%. Mr. Hardie was succeeded in February, 1887, by Mr. (now Sir) W. D. Cruickshank, the present Secretary and Treasurer, under whose able management the important interests entrusted to his charge are steadily adding to the prosperity of the Bank. For the year 1904 the dividend was at the rate of ten per cent per annum, the sum of Rs. 7½ lakhs was added to the Reserve Fund, and 1½ lakh to the Pension Fund. Though the Bank of Bengal was founded in 1809, no report was ever issued until the end of 1856, but from that date half-yearly reports have been regularly issued to the Shareholders. The Bank of Bengal has always and justly held a very high place in public esteem, its records show a career of singular prosperity, due to the ability with which it has been controlled, and the high character of its staff affords the most satisfactory guarantee of continued success.



Sir WILLIAM DICKSON CRUICKSHANK.

Sir WILLIAM DICKSON CRUICKSHANK, *Kt.*, C.I.E., Secretary and Treasurer of the Bank of Bengal, has had a long and honourable career in Bengal and in Burma. During the whole of his service in India he has been associated with the Bank of Bengal. He was born on June 6th, 1845, and is the son of the late Mr. John Cruickshank of Forres, N. B. In his twenty-first year Mr. Cruickshank joined the service of the Bank, and his abilities soon marked him out for rapid promotion. After two years he was made Inspector of Branches, and a year later was given charge of the Agency at Rangoon. In 1876, after ten years' service, he was entrusted with the duties of Deputy Secretary, and eleven years later became Secretary and Treasurer, which position he has occupied ever since.

Mr. Cruickshank's period of service covers some of the most interesting periods in Indian financial history, and as Secretary and Treasurer of the Bank he has a post of heavy responsibility with which the prosperity of India is intimately connected. The periodical reports of the Bank of Bengal are the best testimony of the admirable management of that institution.

Mr. Cruickshank has always taken an interest in sport. He was one of the founders of the Tollygunge Club in 1895, and has been its President for ten years. He has done a good deal of Masonic work in Burma and Bengal, and in the latter Masonic district is past Deputy District Grand Master. He has carried the grand Masonic principle of charity into his daily life, and among the numerous charities in which he is interested, he is one of the Governors of the Marwari Hospital. The Government of India rewarded his arduous career of useful work by making him a Companion of Order of the Indian Empire in the year 1903, and in 1906 he received the honour of Knighthood.

Mr. JOSEPH COUTTS, Chief Accountant, Deputy Secretary of the Bank of Bengal, born in the year 1858 in Scotland, and educated in the same country. He commenced his Banking career in one of the Glasgow Branches of the Royal Bank of Scotland in 1875. After five years' service in that Bank at several of its

Branches, he obtained an appointment in the Bank of Bengal at Calcutta which he joined in 1880. After serving two years in Calcutta, he was appointed Assistant Accountant at the Rangoon Branch, and from thence to the up-country Branches at several of which he was Agent.

In 1892, he returned to Burma, and for a number of years was Agent of the Bank at Akyab and latterly at Moulmein; he also acted as Agent of the Bank at Rangoon. In 1906, he was transferred to Calcutta and appointed by the Directors, Chief Accountant and Deputy Secretary of the Bank.

The BANK OF BOMBAY.—This Bank was originally established in 1840. Mr. S. M. Edwardes, I.C.S., in his history of Bombay, states that the *Times of India* of April 15th in that year, remarked that "the Bank of "Bombay opens for business this "day, three years and nearly "four months having elapsed since "the first subscription to it, and "after surmounting a series of such "difficulties and obstacles as we "believe no similar Institution ever "encountered before, and such "as we may safely predict, no Insti-"tution for the public good will "encounter again."

The Bank was started with a capital of 50 lakhs of rupees, of which Government subscribed three lakhs, and was incorporated under Act III of 1840. Owing to the great demand for shares the capital was increased to 52½ lakhs. The privilege of note issue was granted to the Bank to the extent of two crores of rupees, but when the present Government Department of Paper Currency was inaugurated in 1862 the right of issue was withdrawn, an arrangement being made, by way of compensation, whereby the Bank received charge of the Government Treasury and Public Debt Office, which it still retains. The Bank has now no connection with the Currency arrangements of the country.

Owing to heavy losses incurred during the disastrous liquidations following on the period of enormous speculation which distinguished Bombay during the years 1861 to 1865, popularly remembered as "the time of the share mania," the Bank was reconstructed early in 1868. Since then its career has been marked by great prosperity, and it is now a strong influential Institution, worthy of its position as the leading Bank in the Western Presidency.

The Government ceased to be a shareholder in 1875, and in 1876 the Presidency Banks' Act was passed, under which the Bank is now constituted and regulated, and by which its sphere of activity is confined to India.

Its capital fully paid up, amounts to Rs. 1,00,00,000 and the Reserve Fund, accumulated mainly from profits, now stands at Rs. 87,00,000 or 87 per cent of the capital, and is all invested in Government or other authorised public securities, at low rates.

The Capital and Reserve Fund combined represented 24 per cent of the average of the total deposits for the year ending 31st December 1904, and with the Cash Reserves maintained constitute an exceptionally high degree of protection to depositors.

Government transact their ordinary Banking business through the Bank—their balance at the Head Office is maintained within fairly well-defined limits, the practice being to replenish it when it falls below a certain limit from the Government Reserve Treasury, and to transfer thereto accumulations beyond a certain point. At the Branches, the Government deposits consist mostly of the cash balances maintained for ordinary Local Treasury requirements, but at two Branches, under special arrangements, the Bank also undertakes the remittance of surplus revenue collections to Head-Quarters in Bombay. Besides conducting ordinary Banking accounts, and receiving at interest deposits fixed for various periods not exceeding twelve months, the Bank receives deposits on the principle of the Savings Bank. This system was introduced in 1896 and has met the Banking needs of large numbers of the community for whom the Post Office Savings Bank is too circumscribed. The nature of the Bank's investments is strictly limited by the Presidency Banks' Act, which was designed to attain a high standard of liquidity. The Bank can purchase only Government Securities, Guaranteed Railway Stock, and Debentures of public bodies issued under the authority of Government; and can advance only against these securities, and bullion, goods, and Bills of Exchange or endorsed Promissory Notes. In the case of the last of these securities there is a limit, comparatively low for an important and wealthy centre like the capital of Western India, placed on the amount which can be advanced to an individual or firm, which also applies to the discount or purchase of Bills. In addition, all advances and discounts are restricted by the Act to a period of three months. The Bank maintains Branches at Ahmedabad, Akola, Amraoti, Broach, Karachi, Poona, Sukkur, and Surat. A statement of its affairs is published weekly. Formerly the Bank's rate of interest was subject to severe fluctuations and at times reached a high level. In recent years the range of the rate has been narrowed and the maximum lowered. To some extent this may be attributed to the larger amount of funds now controlled by the Bank, but the main reason is to be found in the altered circumstances of the Currency system of the country, one important result of which has been the removal from the money market of the embarrassments induced by an unsettled sterling exchange. The recent flourishing state of the balance of trade has also assisted in bringing about lower charges for interest. The Dividends paid by the Bank have gradually risen from an average of 7½ per cent for the decade ending 1879 and 9 per cent for the next ten years, to 10½ per cent for the period 1890-99, and 11½ per cent for the past five years. These later results are noteworthy, as they have synchronised with lower rates of interest and discount than in previous years. While gradually increasing its Dividends, the Bank has not been unmindful of the duty it owes to itself of steadily adding to its Reserve Fund. No doubt that policy will be continued in view of the sustained growth of its business.

The present Board of Directors consists of:—

Mr. S. M. Moses (Director of Messrs. David Sassoon & Co., Ld.), President.

The Hon'ble Mr. C. H. Armstrong (of Messrs. Lyon & Co.), Vice-President.
Mr. Ahmedbhoy Habibbhoy (Merchant).
Mr. Tribhovandas Vurjevandas (Merchant).
Mr. Bomanjee Dinshaw Petit (of Messrs. D. M. Petit, Sons & Co., etc.).
Mr. John Fairclough (of Messrs. Ewart, Latham & Co.).
Mr. H. Courtenay Wright (of Messrs. Wallace & Co., etc.).

Of these Mr. Ahmedbhoy Habibbhoy enjoys the distinction of having been a Director continuously since 1868.

The Executive Officers are :—
Mr. James Begbie, Secretary and Treasurer.
Mr. Robert Aitken, Deputy Secretary and Treasurer.
Mr. A. G. Watson, Inspector of Branches, and
Mr. R. A. Don, Chief Accountant.

Mr. JAMES BEGBIE, Secretary and Treasurer of the Bank of Bombay, has had a large experience in Banking. He was for some years associated with the Commercial Bank of Scotland, and in November 1881 joined the service of the Bank

Mr. JAMES BEGBIE.

of Bombay at the Head Office, Bombay. He served in different positions in the Branches of that Bank until he was made Inspector in 1890. He was entrusted with the duties of Deputy Secretary and Treasurer in 1897, and two years later became Secretary and Treasurer, which position he still occupies. Since he became Manager the business has steadily expanded, and the Bank now holds a very strong position.

Mr. ROBERT AITKEN, Deputy Secretary and Treasurer, Bank of

Mr. ROBERT AITKEN.

Bombay, was born in 1863 at West Linton, near Edinburgh, in Scotland. He joined the Bank of Scotland at the early age of 16 years, and left it in 1885 to enter the service of the Bank of Bombay as an Assistant Accountant at the Head Office. His previous experience proved very useful, and he was appointed Agent in 1888 and acted in that capacity at various branches in India during a period of nine years. In 1897 Mr. Aitken was selected as Inspector of Branches, and in 1900 he entered upon the duties of his present position of Deputy Secretary and Treasurer.

Messrs. BATLIBOI & Co., Engineers and Machinery Agents.—Although the firm of Batliboi & Co. began business in a comparatively small way in 1891, Mr. J. F. Batliboi certainly started at the right end when he determined to acquire real knowledge of the Engineering and Machinery Trade. After having qualified himself as a first class Engineer in Bombay he proceeded to England, where for three years he studied engineering and mechanics, both theoretical and practical, and besides finding time for several examinations in these subjects, all of which he passed with success, he also took the opportunity to make himself acquainted with the trade and to form connections with several good English houses. Since then the house of Batliboi has gone steadily ahead. With Mr. J. F. Batliboi, knowledge—whether of men, of business, or of mechanics—has been power. While confining their business chiefly to the cotton trade, the firm have gone into that so extensively, that their stock is as large and as varied as any in the country. With the Cotton Gin, the press openers, engines, boilers, etc., they have a hand in the treatment of the staple all the way from the cotton field to the cloth market, and by their good business methods and extensive facilities for providing all trade requirements they won themselves a place in the front rank of business houses in Bombay within a very short time of their modest beginning.

Besides the extensive importation of mill, ginning and press

Mr. J. F. BATLIBOI.

stores, Messrs. Batliboi & Co. do a large business in railway and ship requirements, and send their goods to all parts of India. A special feature of their trade is the stock-

ing of duplicate parts of all standard machines, whereby all sorts of inconveniences from the stopping of a lathe to the shutting down of a whole mill, are frequently prevented.

Messrs. Batliboi & Co. publish a large illustrated catalogue of which they distribute about 5,000 copies among their various customers, but this volume is not an exhaustive record. They might, like the keeper of the general shop, display the legend, "If you do not see what you want, ask for it." They are sole agents for Messrs. Alexander Young & Co., Engineers, London, Glasgow and Birmingham, for the Unbreakable Pulley and Mill Gearing Co., Manchester, Messrs. R. Hornsby & Sons, Grantham, Oil Engine Makers; Messrs. Penman & Co., Glasgow, Boiler Makers; and G. H. Chaplin & Co., Hydraulic and Steam Packing Manufacturers. They are also agents for Messrs. Platt Brothers, Suppliers of Cotton and Ginning Machines; Messrs. Henry Berry & Co., Makers of Press and Hydraulic Machinery; Messrs. Davey, Paxman & Co., Engineers and Boiler Makers; Messrs. R. Hunt & Co., Makers of Grinding Machinery; Messrs. Fullerton, Hodgard & Bukley, Cotton Press and Hydraulic Machine Makers, and a number of other first-class manufacturers. In the special department of machine tools of every description they are the sole representatives in India of Messrs. Alexander Young & Co., and also represent them in London, Glasgow and Birmingham, in a position unique among Indian traders. Their large stock in Bombay includes, besides the lines already enumerated, pumping machinery, lifting gear, weighing scales, etc., etc.

Mr. Batliboi takes a great interest in agricultural questions, and he does much to promote the boring of tube wells, which, besides their great use in averting famine, have many advantages over the old-fashioned wells, the chief being cheapness and cleanliness. Cheap as agricultural labour is in India, it has been demonstrated by many authorities (among others Professor Chatterton of the Madras School of Arts), that the pumping of water for irrigational purposes could be both accomplished by the oil engine. Mr. Batliboi being of the same opinion, and, moreover, desirous of doing something practical in the matter, presented a 3½ horse-power engine, value Rs. 1,200, to the Victoria Jubilee Technical Institute, Bombay, for the purpose of practice and demonstration in this valuable development of agricultural methods in India.

In conclusion we may say that the business so ably conducted by Mr. Batliboi, with the assistance of his brother, Mr. A. F. Batliboi, B.A., LL.B. (Bombay University), is one calculated to enhance the growing reputation of Oriental merchants, and then in its degree to help to bring India into line with the more prosperous countries of the world.

Messrs. BAUER & KRAUSE, General Import and Export Merchants, established themselves in Bombay in the year 1890 and have their offices at Apollo Street. The partners are Ottoman Bauer and Curt Richter at Leipzig; the Managership at Bombay is vested in Mr. Paul Masotti.

Messrs. BEGG, DUNLOP & Co., Merchants and Commission Agents, were established in Calcutta just 50 years ago in March 1856, by Dr. David Begg. Mr. Henry Christie and Mr. Robert Dunlop joined him as partners in the business. A little later in the same year the sister firm of Messrs. Begg, Christie & Co. was opened at Cawnpore as seed and country produce merchants. In the early sixties Sir Donald Macfarlane, late M.P. for Argyleshire, and Mr. Henry H. Sutherland became partners and continued members of the firm until 1904 and 1888 respectively. At about the same time Mr. Duncan Macneill and Mr. John Mackinnon became partners, but retired from the Firm in 1872 when they established themselves in business as Messrs. Macneill & Co.

The present partners of Messrs. Begg, Dunlop & Co. are Mr. David Cruickshank, Mr. G. H. Sutherland (late Sheriff of Calcutta), Mr. D. A. Campbell, Mr. H. C. Begg and Mr. C. W. Tosh. Of the members of the Firm, no fewer than four, Mr. H. H. Sutherland, Mr. A. B. Inglis, Mr. D. Cruickshank and Mr. G. H. Sutherland, have at various times been President of the Bengal Chamber of Commerce, while the two former were also Members of the Supreme Legislative Council, and the two latter of the Bengal Legislative Council.

Messrs. Begg, Dunlop & Co. have for many years been largely interested in the Indigo and Tea industries as Agents for and Owners of numerous estates. The Tea gardens in their Agency have an area under tea cultivation of about 28,800 acres and produce a crop of over 11 million pounds.

The Tea Districts Labour Supply Association, which has done so much in recruiting labour for Assam, was initiated some 27 years ago when the Firm were appointed Secretaries. The management of the Association is still in their hands.

The Firm are also engaged in the Jute manufacturing industry; the mills under their control containing some 800 looms and 16,620 spindles.

In Fire Insurance, Messrs. Begg, Dunlop & Co. are the Agents of the Imperial Fire Office, established in London in 1803; they are also Agents for the Scottish Amicable Life Office.

The Firm are interested in Engineering business as the Calcutta representatives of the well-known Engineering Agents, Messrs. Macbeth Bros. & Co. of Bolton and Bombay.

The Cawnpore Branch of the Firm, originally styled Messrs. Begg, Christie & Co., later Messrs. Begg, Maxwell & Co., has for the last 30 years been known as Messrs. Begg, Sutherland & Co. In addition to their business as seed and produce merchants, they are chiefly interested in the sugar manufacturing industry, which has developed considerably under their able management. The Firm are the Managing Agents of the Cawnpore Sugar Works, Ltd., with a Refinery at Cawnpore and Sugar-Cane Factory and Estates in Sarun, and of the Champarun Sugar Co., Ltd. Messrs. Begg, Sutherland & Co. are the concessionaires for the electric lighting and tramway scheme now being inaugurated in Cawnpore and the Agents in that city of the Indian Electric Supply and Traction Co.

Among other enterprises in which the Firm is interested is that of the manufacture of brushes. The fac-

tory under Messrs. Begg, Sutherland & Co.'s management has been appointed as suppliers of brushes to the Army in India.

Messrs. BELL, RUSS & Co., Merchants, Bombay. This firm was established in the year 1878 by Mr. William M. Bell who carried it on single handed as a general export and import business for many years. In the year 1906 Mr. Clarence A. Russ was taken into partnership and the firm's designation altered to its present style. Mr. William M. Bell is a native of Edinburgh. He gained his early commercial experience in London in the service of the well-known English firm of Messrs. James Wyllie & Co., and proceeded to

Mr. W. M. BELL.

Calcutta in the year 1865 as an Assistant in the firm of Gladstone, Wyllie & Co., with whom he remained till 1876 when he was deputed to open a branch of the same business at Bombay. The branch having been closed after a short trial Mr. Bell established a mercantile business on his own account and carried it on till by the present development it has become the firm of Bell, Russ & Co. Mr. Clarence A. Russ, the junior partner, received his commercial education in the firm of Messrs. Forwood Brothers & Co., at London, and has had about eight years' Indian experience in mercantile affairs.

The BENGAL COAL COMPANY, Limited.—This Company holds the premier place in the Coal Industry of India, not only in point of long standing, but also as regards the annual output of its collieries. Formed in 1837, the Company's works at Palamow were partly destroyed by the Mutineers in the memorable year 1856-57, and the machinery thrown down the shaft by the rebels in their attempt to wreck the mine is still as they left it. The Company's seal of 1843 is carefully preserved in the Calcutta Office, forming an interesting link between the past and present fortunes of the Company. Another memento of the troublous times of the Mutiny is in the shape of a curious piece of Artillery found at the Palamow colliery, a gun or cannon made from a length of old iron piping hooped at both ends with iron rings and provided with a touch-hole, and this unique field-piece is most carefully preserved in the Company's possession.

The steady growth of the Company may be gauged from the fact that whilst in 1856 a capital of 16 lakhs of rupees was considered sufficient for its requirements in 1905 a capital of twenty-four lakhs of rupees was found requisite. Similarly has the popularity of the Company steadily advanced, and the published reports of the Directors for the year ending 31st October 1904 disclosed that besides paying a dividend of 12 per cent, a bonus of 8 per cent was also available to the Shareholders who received the handsome return of 20 per cent on the face value of their shares, whilst the shares of the nominal value of Rs. 1,000 each are quoted at Rs. 4,500, thus emphasising the value in which they are held by the investing public. Some idea of the extent of the Company's operations is illustrated by the fact that their sales of coal and coke for the year 1st November 1903 to 31st October 1904 aggregated the large sum of over 56 lakhs of rupees; whilst in land, machinery, buildings and plant generally, the Company has over half a crore of rupees invested. The Bengal Coal Company owns and works some twelve collieries and has a monthly output of 60,000 tons and a labour force of upwards of 10,000 daily, under the supervision of thirty expert Europeans. The area of the Company's properties exceeds 40,000 acres. In India the Company supplies its produce very largely to Railways, Steamships, Mills and other coal-fuel using Industries, and also ships very largely to all the Eastern Ports; and they have lately had built for their own coal carrying business the fine Steamer *Sanctoria* of 6,300 tons, which is now running on the Company's business.

Mr. H. H. MACLEOD, father of the present Superintendent, managed the Company for 15 years (1876-1890) and his services were very instrumental in building up the prosperity of the Company. In 1890 he was succeeded in this appointment by Mr. C. W. Gray, and on the latter's death in 1901, Mr. H. Macleod, who has been associated with the Company since 1886, was appointed Superintendent. Mr. H. Macleod was educated at Watson's College, Edinburgh, and also at Dulwich College, London, and came out under covenant to the Company in 1886. He is a Member of the Indian Mining Association, and Chairman of that body for the year 1905-1906.

Messrs. BIRD & Company, Calcutta, Merchants, Contractors and Agents. This firm was established in the early sixties, at Allahabad, the capital of the then North-West Provinces, by Mr. Sam Bird, who was afterwards joined in business by his brother Mr. Paul Bird. For some years they carried on business as Contractors for the loading and unloading of goods at the stations on the East Indian Railway Co.'s system, and also at stations on the North-Western State Railway's line, Ghaziabad to Lahore, from that centre. Transferring their Head Office to Calcutta later, the steady upward progress and the widening scope of Messrs. Bird & Co.'s business has resulted in this firm being now one of the leading firms in the metropolis of India. The present partners in the firm are: Sir Ernest Cable (late Sheriff of Calcutta), Mr. Emile Moreau, Mr. W. Girard, Mr. J. E. McCabe and Mr. J. B. Strain. The firm's offices in Clive Street are very handsome ones, being specially designed and built for coolness and comfort as well as for convenience, comfortably accommodating the large staff, both European and Native, employed therein. Messrs. Bird & Co. have large interests in the Coal

Industry and exercise the management and control over coal mines having an aggregate output of one million tons per annum, and they export annually upwards of half a million tons or one-fourth of the total export of Indian Coal. To meet the requirements of this large business the firm have their own line of steamships, known as the "Bird Line," and their two-turret deck steamships, "Florican," and "Flamingo," of over 6,000 tons each, are solely engaged in this traffic, and in addition to other steamers constantly under charter to the firm. Messrs. Bird & Co. are Managing Agents for many of the chief Coal Companies, and amongst them may be named the Burrakur Coal Co., Ltd, the Reliance Coal Co., Ltd., the Nawaghur Coal Co., Ltd., and the Lutchipore Coal Co., Ltd., a quartette of collieries hard to equal and impossible to excel anywhere in India.

In addition to the development of the coal trade of Bengal, Messrs. Bird & Co. have given much attention to the Jute Industry, and have considerable interests therein, the Mills belonging to the Union Jute Co., Ld., the Standard Jute Co., Ld., and the Clive Mills Co., Ld., being under their direct control. Messrs. Bird & Co. are also the largest labour contractors in India, furnishing labourers to the East Indian Railway Co., the Eastern Bengal State Railway, the Government Salt Golahs, and for the handling of work at the Docks, as well as for many private enterprises, there being a force of some 25,000 labourers employed by them.

To the enterprise of one of the members of this firm the travelling public of India are indebted for the introduction of newspaper and bookstalls at many of the Railway Stations throughout India, an enterprise which whilst being much appreciated by travellers has also proved highly remunerative to its founder.

Sir ERNEST CABLE, *Kt.*—The history of modern Calcutta offers few personalities of such interest as Sir Ernest Cable. He was born in Calcutta in December 1859, and was intended for a public school education in England. Owing, however, to unfortunate delicacy of health he was forced to return to India after a stay of six years at home. He was then sent to a private school in Mussoorie and graduated at the Calcutta University, where he studied with a view to entering the Public Works Department. It was as well for the future commercial prosperity of Calcutta that Mr. Cable decided that the strenuous mercantile career presented more attractions than the public service. He first gained a sound knowledge of business in the firm of Ashburner & Co., and on the closing of that firm he joined Messrs. Lyall, Rennie & Co. It is, however, in regard to his connection with Messrs. Bird & Co. that his name has become so well known. Messrs. Bird & Co. under the management of the late Mr. Paul Bird had already raised its head high among the many great Calcutta business houses, and its development of the mineral resources of Bengal

Sir ERNEST CABLE.

had attracted marked attention. Mr. Cable thus found a field well prepared for his energies, and his keen intelligence combined with a cool and undeviating prescience instilled new fighting force into an organization already famous. The recent adventurings of Messrs. Bird & Co., with regard to the Jute and Coal Industry, are sufficiently well known and would be out of place in an article dealing strictly with a personality. Their interest in this connection is chiefly due to the fact that they are the outcome of Mr. Cable's energies, and point to the fact that Calcutta may well watch with interest the future of a man who has already accomplished so much before his fiftieth year.

Sir Ernest Cable's public career has also been of exceptional interest. He has served on Committees of the Chamber of Commerce, and on various Government Commissions. He was appointed a Member of Council of the Government of India from May 1903 to May 1905. On the 20th December 1904, Mr. Cable had the honour to be appointed Sheriff of Calcutta.

Sir Ernest Cable is a fearless public speaker, and his utterances, especially of late, have commanded wide-spread interest, the more especially as they always have a direct bearing on the commercial prosperity of India, in which cause he is something more than an enthusiast. He is one of the few whose speeches bear translating into type.

He has business relations with Egypt and many other parts of the world.

He had the honour of Knighthood conferred upon him by H. R. H. the Prince of Wales on the occasion of his visit to Calcutta in January 1906.

Messrs. BIRKMYRE BROTHERS, 6, Clive Row, Calcutta, Jute Manufacturers and Merchants, Proprietors of the Hastings Jute Mills at Rishra, Agents for the Gourock Ropework Co.'s manufactures, and manufacturers of the Hastings belting.

In 1874, Messrs. William and Adam Birkmyre, Proprietors of the Greenock Sacking Co., a small Jute Works of about 150 looms, in Lyndoch Street, Greenock, the motive power of which was a water turbine, decided to transfer their entire machinery to Calcutta and re-erect on the banks of the Hooghly. The Greenock Works were accordingly dismantled and the machinery loaded into a sailing vessel, lying in the Victoria Harbour at Greenock, whence it was brought out round the Cape of Good Hope and delivered in Calcutta. In carrying out this scheme they associated themselves in partnership with their elder brothers Messrs. Henry and John Birkmyre of the Gourock Ropework Co., Port Glasgow, and opened in Calcutta the firm of Birkmyre Brothers, in a small office, of one room, in the Strand. The office was shortly afterwards transferred to Pollock Street, thence to 12, Clive Row, and ultimately, in 1886, to 6, Clive Row, where it has been established ever since.

The site chosen for the new mill and factory was at Rishra, on ground formerly owned by Warren Hastings (the title-deeds of this

property in the possession of Birkmyre Bros. comprise two leases executed by Warren Hastings, the signature and seal being in a perfect state of preservation) and the works were named the Hastings Jute Mill. The machinery was gradually added to until there were over 500 looms running, with the equivalent spinning plant. In 1893 an electric light installation was added, and from 1894 to 1904 the works were run at night by artificial light, the average working time being about 22 hours per diem. Birkmyre Bros.' Mill was the first to have electric light introduced, and the only one in which night working was attempted. Labour difficulties, consequent on the rapid increase in the Jute manufacturing industry in Bengal, compelled the stoppage of the night working in 1904. To compensate for this loss of production the Mill and Factory have been increased to a producing capacity of 760 looms, and at the same time the old engines have been replaced by electric generators driven by steam turbines, with a capacity of about 4,000 H.P. The whole machinery is now worked by electric drive, and Birkmyre Bros. are again the pioneers, in this system of power generating, in Bengal.

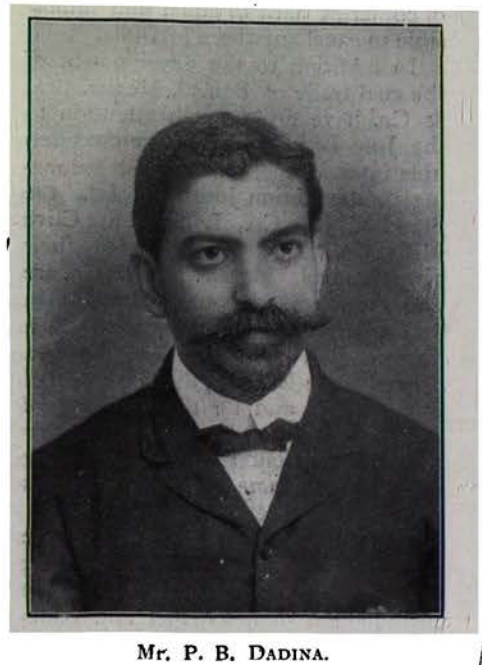
In addition to Jute manufacturing there is at Hastings Mill a separate department for the making up of all descriptions of canvas and waterproof paulins, bags and military equipments, the well known Birkmyre patent waterproof cloth being now extensively used by the Indian Government for military, postal and other purposes. There is also a special Department for the making of belting, which is sold as the "Hastings" belting and is rapidly coming into favour with users of belting throughout India.

In the Calcutta Office Birkmyre Bros. have also extended their business very materially. They are now amongst the largest exporters of Jute goods, chiefly to North and South America, and in connection with this branch of their business recently inaugurated the "Lion" Line of steamers for direct communication with the River Plate ports. They have just opened a piece-goods department and hope in time to secure a fair proportion of this trade in Calcutta.

They have also under construction a fleet of steamers and flats for the inland traffic in Jute and other produce, the first portion of which, a steamer and four flats, was launched by 1st January, 1906. The original constitution of the firm remained unchanged until 1890, when Messrs. William, John, James and Archy, sons of Mr. Henry Birkmyre (Senior) and Mr. Henry (son of Mr. William Birkmyre, Senior), together with Mr. J. A. Kinnison and Mr. John Finlay were admitted partners. The present firm is composed of Messrs. John and Adam (the survivors of the original partnership) and Messrs. William, John, James and Archy Birkmyre and Mr. John Finlay. Mr. Archy Birkmyre, the managing partner, has for thirteen years been resident in Calcutta, and it is to his energy and high business capacity that the recent rapid development and progress of the firm are to a great extent due. Mr. John Finlay has been with the firm from its inception and superintended the building of the Hastings Mill from the laying of the first brick. He was Manager of Works for over 20 years, and still makes an annual visit of three or four months' duration to India.

Messrs. BLACKWOOD, BLACKWOOD & Co., General Merchants, have their offices at 12, Clive Street, Calcutta, and deal in all general merchandise. They established themselves under their present name in 1883, previously to which they were known as Hobson Conor & Co., who were the outcome of the old-established firm of Ede & Hobson. The latter firm started business in the early days of the history of Calcutta and were one of the oldest firms established in this city.

Mr. JOSEF BLUM, Merchant and Manufacturer's Agent, 22 and 24, Meadows Street, Bombay, was established in 1896. The firm are sole Agents in India for Messrs. The Baden Clock Company, Limited, the Bielefelder Maschinen Fabric of Bielefeld; the Herm Riemann Chemnitz-Gahlenz and many of the Continental Companies. The Perfumer and Soap Manufacturer to the Court of Austria, Gottlieb-Taussig, is also represented by this firm, who are also correspondents and sole Agents for Messrs. Bellamy, Walker, Hill & Co., 4, South Street, Manchester and Liverpool, England; Messrs. Weisglass & Co., Vienna, Austria; and the Harburg and Wien India-Rubber Co., specialists in the export of rubber goods. Mr. P. B. Dadina, the Manager of the firm, was born in 1874 in Bombay where he received his education, up to matric. class at the Elphinstone High School. Connected with the mercantile world for over fourteen years Mr. Dadina has acquired great experience and is a most energetic and talented business man. He began his business career as a salesman with Messrs. B. Rigold and Bergmann, Merchants, and remained with them for three years, gaining valuable commercial knowledge. He has been connected with Mr. Josef Blum since he began business in Bombay.



Mr. P. B. DADINA.

The BOMBAY COMPANY, Limited (Importers and Exporters) is a private Company founded in Bombay in 1886. Capital Rs. 10 laks, of which 7½ laks is paid up.

The Managing Directors are Mr. H. C. Wright, Mr. Marshall Reid, C.I.E., the Hon'ble E. J. Hawke, and Mr. S. J. Gillum.

The Company has a branch in Calcutta, managed by the Hon'ble E. J. Hawke, and another in Karachi, managed by Mr. L. B. Stephens.

The BOMBAY and PERSIA S. N. Co., Ltd.—The offices of this enterprising Shipping Company are located at 1, Ash Lane, Fort, Bombay. They have a fleet of 14 steamers, sailing under the British flag, and occupied in a regular service from Bombay to Persian Gulf ports, and from Bombay, Calcutta and Busreh to Red Sea ports. Their operations are somewhat extensive, having agencies at Calcutta, Colombo, Karachi, Bunder Abbas, Lingah, Dabai, Baharein, Bushire, Mohamerah, Busreh, Mukalal, Aden, Berbera, D'Jibouti, Hodeida, Mussowah, Suakin and Jeddah, and embracing the transport of Mohamedan pilgrims from India and Persia to a large extent. In September 1905 they lost one of their vessels, the *Hashemi*, which is supposed to have foundered with all hands in the cyclone which visited the Bay of Bengal during that month. She was on a voyage from Calcutta to Bombay, and nothing has been seen or heard of her since she left Sandheads.

Mr. Mirza Mohamed Shirazi is the present Managing Agent of the Company. He is a Justice of the Peace for Bombay and is connected with the Anjuman-i-Islam and other Mohamedan institutions. He has had the distinction of "Amintojar" conferred upon him by the Shah of Persia.

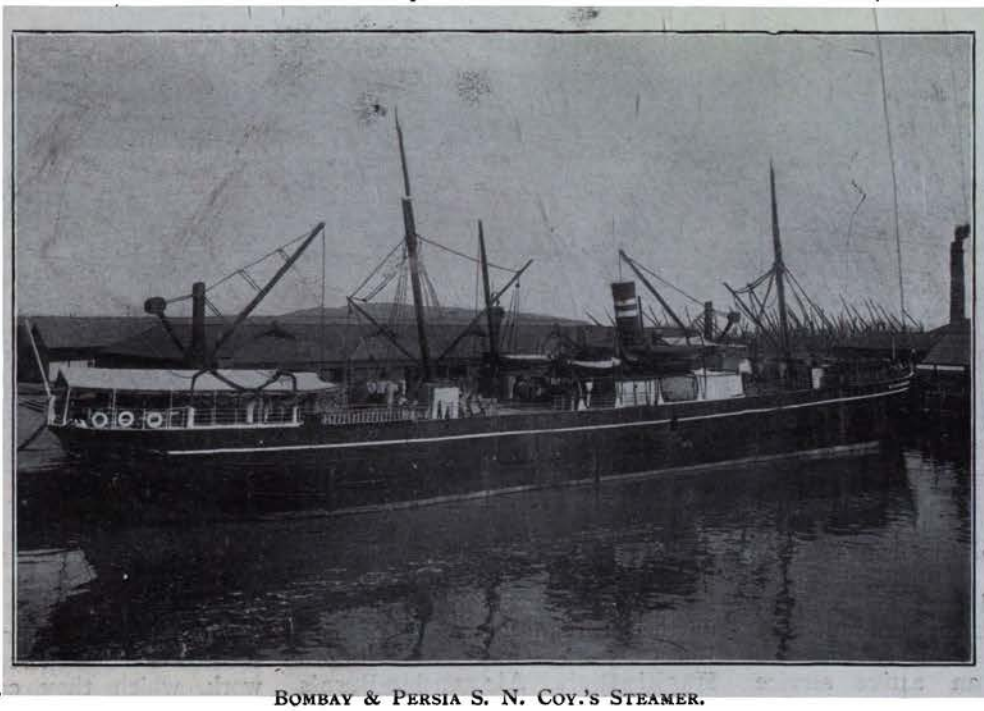
He was preceded as Managing Agent of the Company by his father Haji Abdul Hoosein Haji Zenal Abedin Shirazi, who was the principal founder of the Company and to whose zeal, energy and ability the present flourishing state of the Company is mainly due.

Haji Abdul Hoosein Shirazi acquired his first experience in shipping business under his father Haji Zenal Abedin Shirazi, who came to Bombay from Shiraz in 1840 and settled down as a merchant and subsequently as a ship-owner. He soon became a popular figure amongst the Native mercantile community of Bombay and spent a large sum of money in charity. He had the title of "Amintojar" conferred upon him by the Shah of Persia, and after his death the same distinction was conferred on his son Haji Abdul Hoosein.

Mr. M. M. Shirazi.

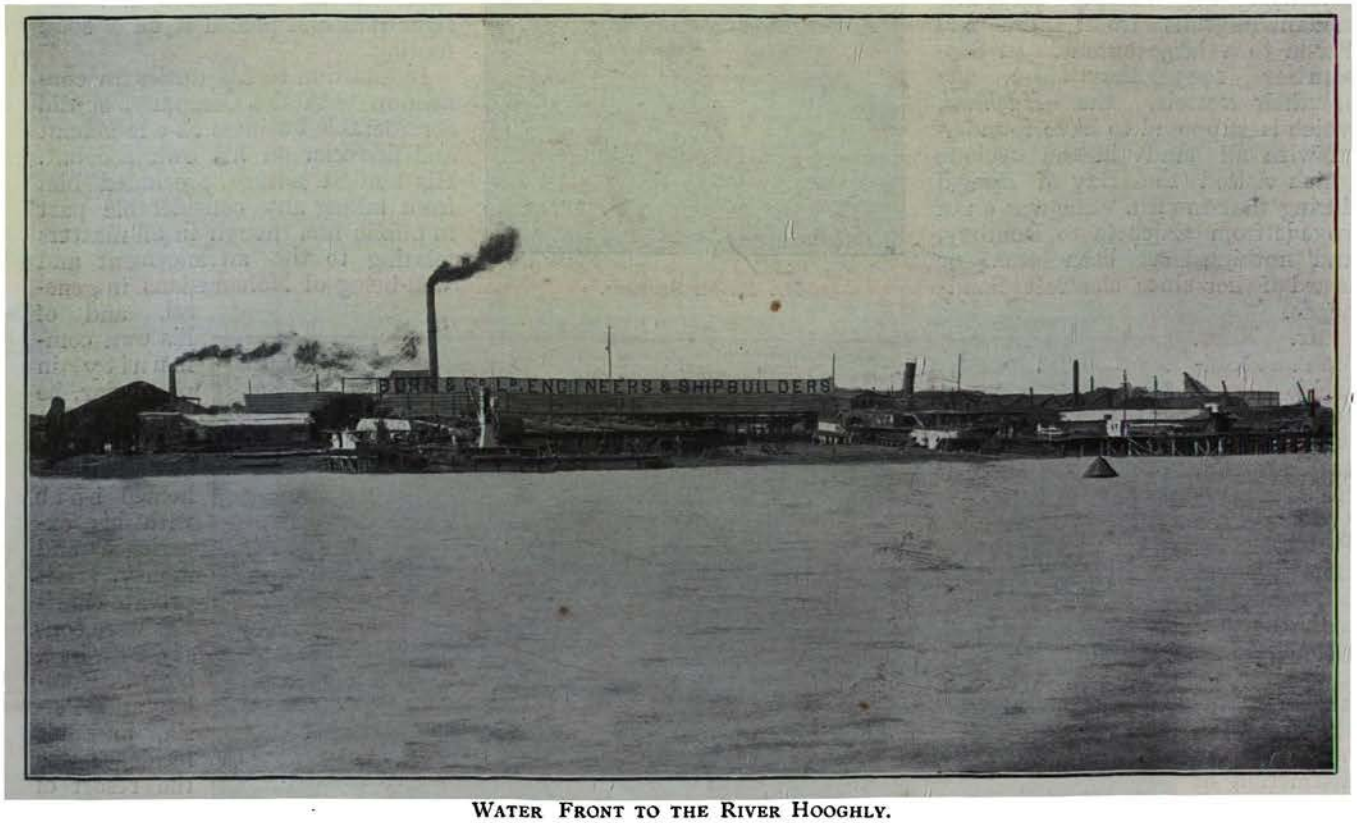
The Company was established in 1877 and Mr. Abdul Hoosein became its first Managing Agent, continuing in that office until his death in April 1900. At the outset it had to face strong opposition, but the undaunted zeal and rare business aptitude of Mr. Shirazi, coupled with a disposition for downright hard work which knew no rest and allowed him no respite, overcame all difficulties and obstructions and placed it on a solid footing.

In addition to his duties in connection with the Company, he did considerable business as a merchant and financier on his own account. His modest nature precluded him from taking any considerable part in public life, though in all matters relating to the advancement and well-being of Mohamedans in general, and of his own community in particular, he took the keenest interest and helped both with his experience and money. His private charities were considerable, both in Bombay and Persia, and his residence was the resort of many poor people. When plague first broke out in Bombay, he maintained at his sole expense, a special plague hospital for members of his community. He was a Justice of the Peace and Vice-President of the Anjuman-i-Islam, and was also connected with several Mohamedan institutions.



Bombay & Persia S. N. Coy.'s Steamer.

Messrs. BURN & Co., Ld.—This old-established firm occupies the premier place amongst engineering concerns in the East, not only owing to its long existence, but to its established reputation for soundness and thoroughness in all its undertakings. The Company was founded as far back as 1781, and from that time onward it has gradually expanded until at the present time the work shops at Howrah, which are fitted with the most modern equipment, cover an enormous area, in keeping with the vast quantity of work produced there.



WATER FRONT TO THE RIVER HOOGHLY.

The history of the firm is most interesting, for it practically contains the record of the beginning of industrial enterprise in India.

The founder, Colonel Archibald Swinton, was an active service veteran, who, on his retirement, devoted his energies to the business for a period of twenty years, ultimately retiring to Bath, England, where he is reported to have died in 1804; old records however mention that he was of Kimmerghame in Berwickshire.

On Colonel Swinton's retirement the business was carried on by one of his foremen, a Mr. James Rolt; although how the firm was styled at that time is not recorded. The first mention of the name of Burn appears, however, in 1809, when Alexander Burn, an Assistant, became the head, and he with a Mr. Currie (also an old foreman of Mr. James Rolt's) gave the concern the name of Messrs. Burn & Currie. This partnership continued until about 1831, when Mr. Currie left the firm, and his place was taken by Mr. William Burn (a brother of Alexander Burn), and Mr. James Mackintosh, with the style of Messrs. Alexander Burn & Co. In 1833, the names of the partners in the firm are given as William Burn, John Gray and James Mackintosh. Alexander Burn's name not being mentioned it may be inferred that he had retired by that time. In 1849, a Mr. Henry Burrows became a partner; the next addition to the firm did not take place until 1854, when Mr. D. Anderson, Architect, joined the firm, and from that time various minor changes occurred in the Principals of Burn & Co., owing to retirements and other causes incidental to business careers in India.

At the present time the partnership consists of Messrs. J. Gillespie, W. R. Steele and A. Whyte.

In 1895, the business of Messrs. Burn & Co. was converted into a Limited Liability Company, this step being necessitated by the tremendous growth of the firm who were then supplying a big demand for their manufactures, and who had contracts of great magnitude entrusted to them. In fact, it was a natural growth. There were many new concerns formulating in India which required up-to-date plant and machinery, and Burn & Co. through their own merits secured a large percentage of the work, which they carried out in every case to the complete satisfaction of the owners, in spite of the fact that much of the work was on a far greater scale than had ever been undertaken before that time in the East.

There are now many branches of the firm established in other

parts of India, the chief of which are at Bombay, Raneegunge, Jubbulpore and Rangoon, besides storage capacity. Here will be seen rows of gas and oil engines, forges, mills, and presses of all sorts,

INTERIOR OF DRAWING OFFICE.

representatives with head-quarters at London, Glasgow, Singapore and the Straits Settlements.

Yet another adjunct to this extensive concern is the Commercial Dock at Howrah where vessels registering a tonnage of 1,000 tons have been built. In addition to this the Company possess a dry dock where repairs are rapidly and efficiently carried out to larger steamers.

The Company also have large brickfields and tile works of their own at Alipore and Durgapore near Calcutta, from which they supply the materials and ornamentations for a great number of India's finest public and private buildings.

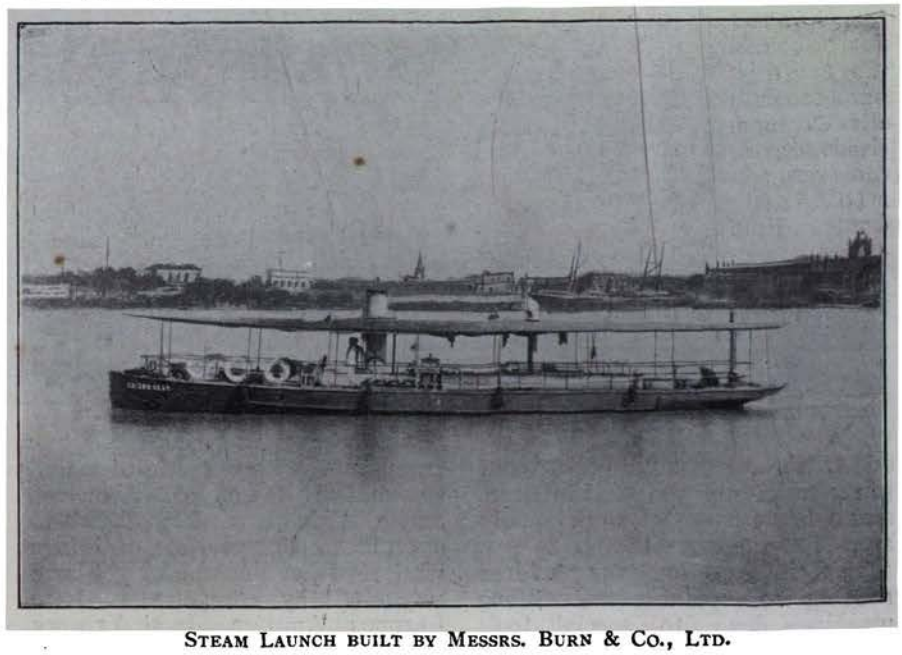
The chief industry carried on by Burn & Co., Ld., however, is their Iron Works at Howrah. These are the largest in Bengal and cover an area of over thirty-five acres, though even this large space has been found insufficient to meet requirements, and the enlargement of the majority of their workshops and stores is continually found necessary.

The main warehouse alone has an area of over 18,000 square feet, and this is fitted with a wide gallery which materially adds to its machine tools, and fittings of all kinds appertaining to electric and gas lighting plant, etc., etc.

To facilitate the speedy despatch or receipt of bulky goods the Company own private sidings, connected with the East Indian Railway and the Bengal-Nagpur Railway, which run right through the warehouses, where overhead cranes travelling the whole length of the buildings speedily deal with every contingency.

These sidings, acting in conjunction with the two jetties on the Hooghly river front (both of which are equipped with hydraulic and steam cranes), minimise both time and labour, and allow consignments to be transported in every possible way to all parts of the East.

Electric power is generated by a Parson's steam turbine and is transmitted to most of the machines used in the workshops, consisting of saw mills, carpenters' shops, girder shops, blacksmiths' shops, a machine shop, and a foundry. Careful to see that the details of organization, by which the main structure is guided, are perfect, Messrs. Burn & Co.'s drawing office is replete with every appliance pertaining to good draughtsmanship, and this is secured by the services of selected Europeans who have received their training in the work-



STEAM LAUNCH BUILT BY MESSRS. BURN & CO., LTD.

In fact, Burn & Co. stock everything, and every kind of thing needed for structural or engineering work, by modern industrial methods. shops and offices of British firms whose names are closely connected with engineering history.

A complete and well-selected

library of books of reference upon engineering and other cognate subjects, the works of authorities on different subjects, is a notable addition to the department, making it as complete as it is possible to be.

The foundry is capable of turning out both brass and iron castings up to twenty tons weight, whilst the machine shops contain every machine that the inventive genius of man has devised to save labour and ensure a maximum of efficiency in the making of the most intricate and delicate pieces of work equally as well as the coarsest.

In all there are some 150 machines ranging from planing and milling machines down to special tools and plant for the manufacture of railway points and crossings.

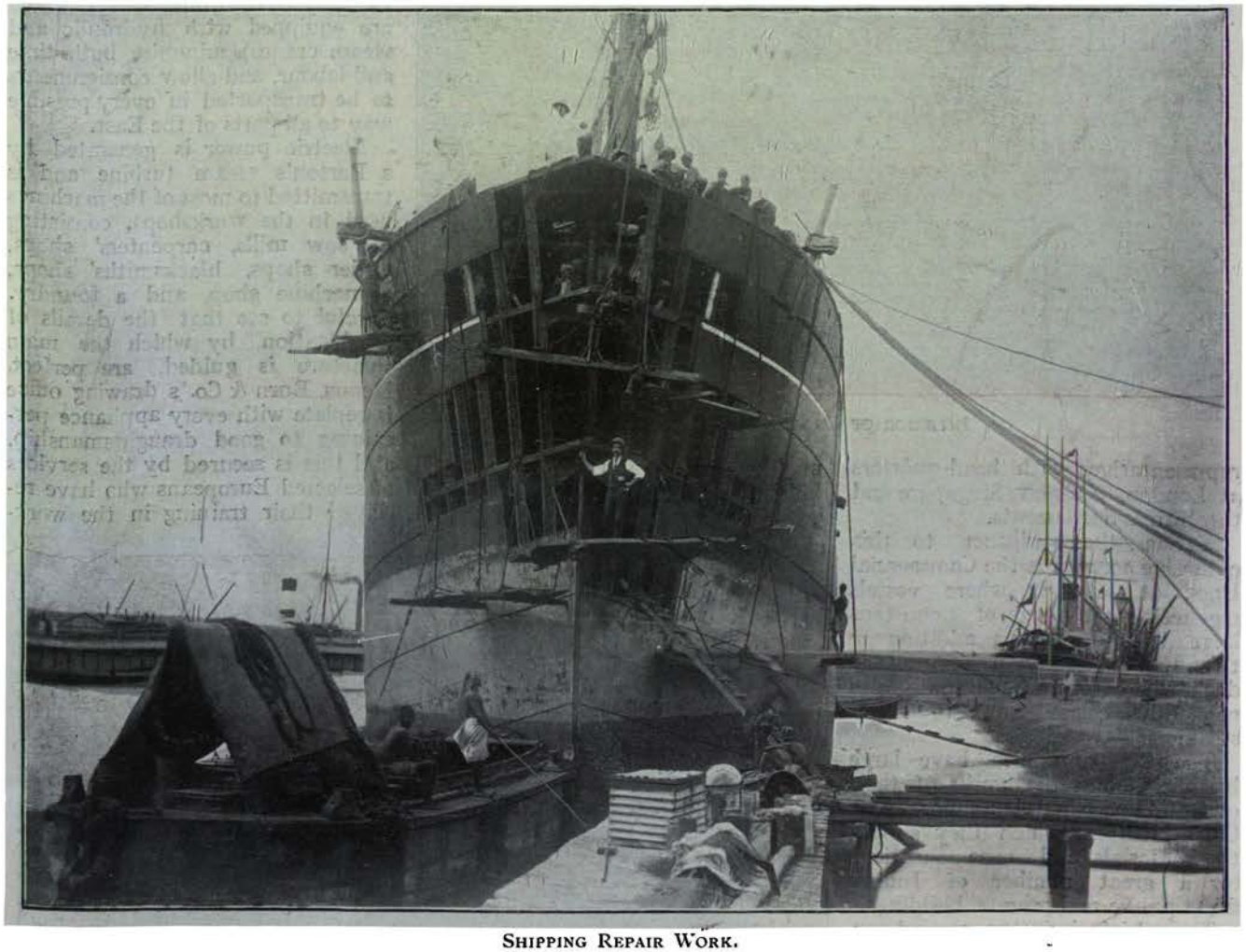
In railway carriage building Messrs. Burn & Co. have practically convinced the Railway authorities of India that quite as good work can be done in India as in Europe or America; and the rolling stock built by them for the passengers of the Bengal Provincial Railway, and their broad gauge covered goods wagons built for the Eastern Bengal Railway are proof of their capabilities to turn out this kind of work in the best style, as regards material and workmanship.

Steel bridge work is one of the Company's many specialities and Messrs. Burn & Co., Ld., have given ample evidence of their ability to execute the highest class of bridge work, for they have never yet been surpassed by competitors from Europe or America. In girder work and the manufacture of cast iron roof spandrels they hold an equally high reputation.

Messrs. Burn & Co., Ld., have acquired the patents of, and manufacture many machines and devices which are helping to develop the resources of the country. The "Boomer" Hydraulic Press is one of them, being specially constructed to meet the requirements of the up-country jute trade, its pressing capacity being 500 to 600 bales of jute daily.

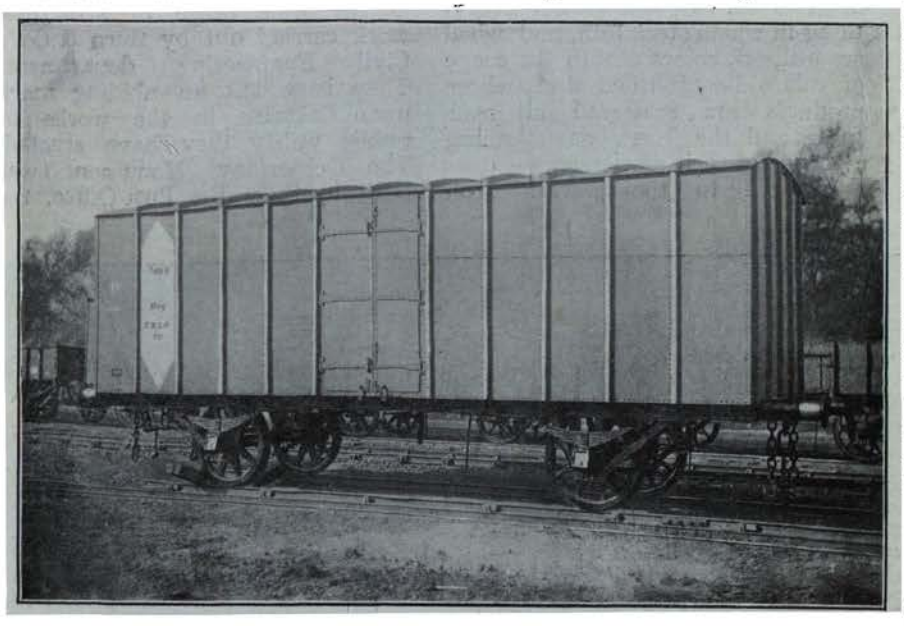
From the ship-building yards are turned out pontoons, cargo-boats, steam and electric launches and all kinds of water craft. One of the latest productions is a large steel pontoon having a superficial area of 96,000 feet, made for the Bengal-Nagpur Railway. A large percentage of the jute flats used in the trade left these slips, where new keels are laid as fast as the completed boats can be launched.

Coming down to present times, the most prominent productions of the Howrah Yard in the ship-build-



SHIPPING REPAIR WORK.

ing line, are the two large ferry paddle steamers, "Buckland" and "Howrah" built for the Calcutta Port Commissioners to ply between the Armenian Ghat and the Howrah Railway Ghat during the hours the bridge is closed for traffic. They are each 147′ long by 27′ beam and 9′ in depth, and have a carrying capacity for 1,000 passengers.



SPECIAL TYPE JUTE-CARRYING WAGON.

The hulls are of mild steel and very strongly constructed. There are two decks, an upper and lower, and a teakwood awning extends all fore and aft. On the upper deck, two deck cabins are provided, one for gentlemen and the other for ladies. On the main deck are situated the mail room, the commander and officers' cabins, and store rooms.

The machinery, which is of very powerful description, consists of two complete engines each having cylinders 16″ and 32″ diam. by 36″ stroke, and which drive two paddle wheels 12′ 0″ diam.

Steam is provided by two boilers 9′ 6″ diam. by 9′ 6″ long for 120 lbs. W.P. The speed of these steamers is over 12 miles per hour.

Messrs. Burn & Co. have also recently completed for the Rangoon Port Commissioners three landing stages for the Inland steamer traffic at Rangoon. Each of these stages are 204′ long by 40′ wide, with two approach gangways of 100′ span, for transporting the goods landed on the stage to the Transport Sheds (also constructed by Messrs. Burn & Co.) which are conveniently placed opposite the stages.

During the year 1905, Messrs. Burn & Co. turned out over fifty vessels of the approximate value of 25 lakhs of rupees.

Messrs. Burn & Co. do a very large business in Sanitary Appliances, etc., and the most of the nightsoil, watering carts, etc., used by Indian Municipalities emanate from the Howrah Iron Works. At the time of the visit of the Prince of Wales, the firm supplied a great number of watering carts to the Calcutta Corporation and other bodies to keep down the dust on the roads during processions. They make a speciality of latrine installations for Municipalities, Mills, Stations, Cantonments, etc.

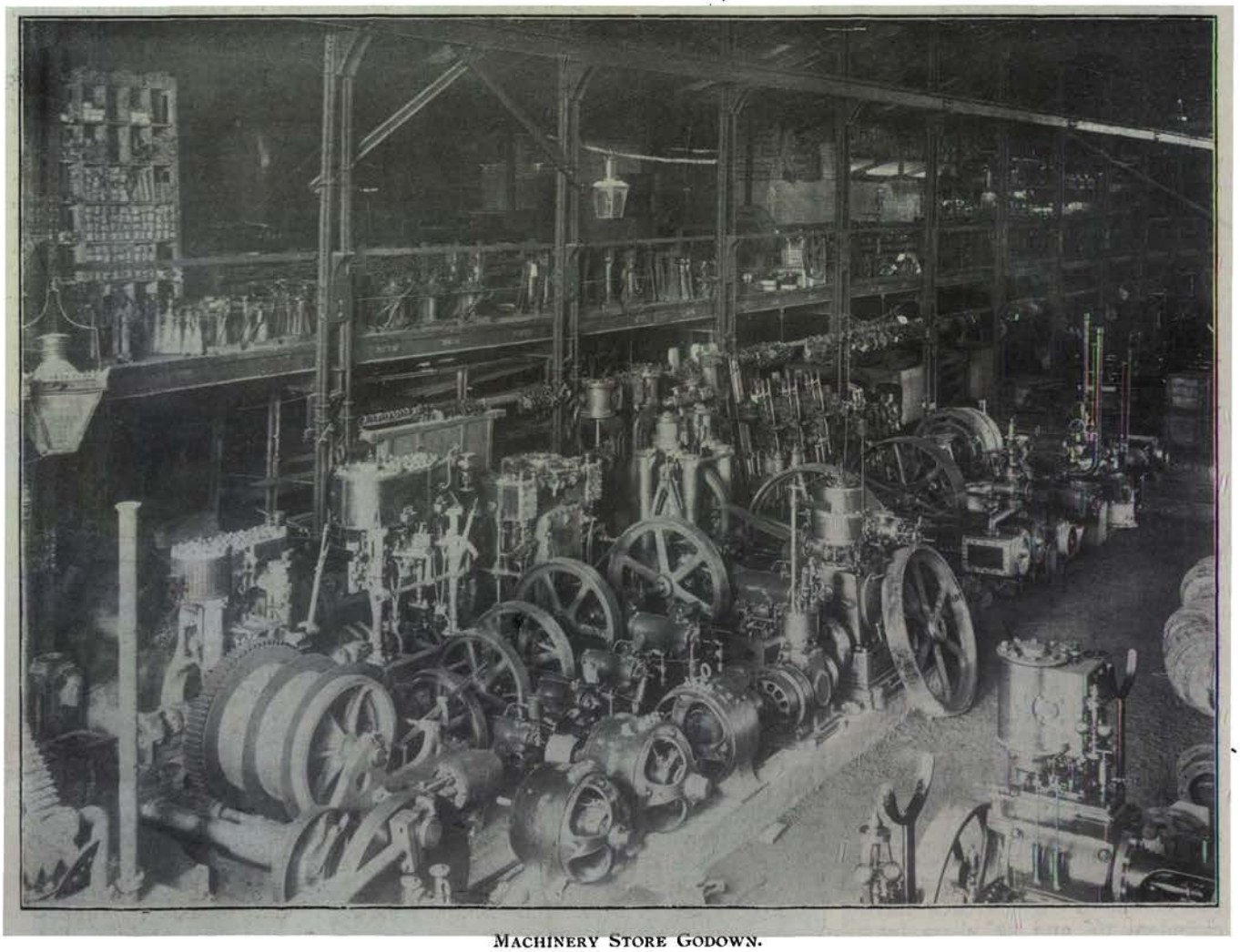
They have installed Incinerators, fixed and portable, for destroying street refuse to the following Municipalities and concerns and in each case with complete success :— Ootacamund, Multan, Madras, Mandalay, Patna, Coimbatore, Coonoor, Naraingunj, and Calicut Municipalities, the King Institution of Preventive Medicine at Madras, the Chapur Gold Manufacturing Co., Mysore State, the Kharagpur Station Committee, at Rangoon, Diamond Harbour, and the Rangoon Hospital, etc., etc.

The pottery works belonging to Messrs. Burn & Co., established at Raneegunge and Jubbulpore, are famed all over India, and at these places are made not only works of utility but works of art. Stoneware glazed pipes, fire bricks, fire clay and encaustic tiles for

RANEEGUNGE POTTERY. SAMPLES OF ORNAMENTAL TILES, ETC.

floors and roofings, etc., come under the former heading, whilst under the latter category are included terra-cotta ornaments.

It is impossible to enumerate here a list of the articles dealt with by the firm (Messrs. Burn & Co., Ld.), but the most important consist of jute presses, oil mills, sugar-cane mills, light, portable and permanent railways, fittings and



MACHINERY STORE GODOWN.

plant for railways and construction purposes generally, brick-making plant, soorky and mortar mills, corrugated iron structures, etc., etc. The two oil storage tanks (each of which is 90 feet in diameter and over 38 feet in length, with a storage capacity of half a million gallons) built by Messrs. Burn & Co., Ld., for the Standard Oil Company at Budge-Budge show that size is no deterrent to their undertaking any kind of work they are called upon to do. In fact almost everything in which steel, iron, and wood are utilized, comes within the scope of this old-established firm, whose products are scattered all over India and the East, as standing evidence of their efficiency.

A visit to the Howrah Iron Works will show the high state of efficiency at which the firm continues; and no expense is spared when new improvements are justified, to ensure keeping up to date. It is largely owing to the care and attention bestowed to the details of their business, that Messrs. Burn & Co., Ld., maintain the leading position in the engineering and kindred trades in the East.

It now remains shortly to glance at the wide range of structural work carried out by Burn & Co.'s Civil Engineering department. They have left an abiding mark upon Calcutta in the works of public utility they have erected. The Ochterlony Monument was built by them, the Post Office, the old Race Stand, the Bengal Club, and the old United Service Club, the Lieutenant-Governor's residence at Belvedere, and the noble mansion of the Mullick family at Seven Tanks, are all Burn & Co.'s work. They built St. Andrew's Church and the Free Church, St. Thomas' Church, and the Free Church in Wellesley Street, Dr. Duff's Free

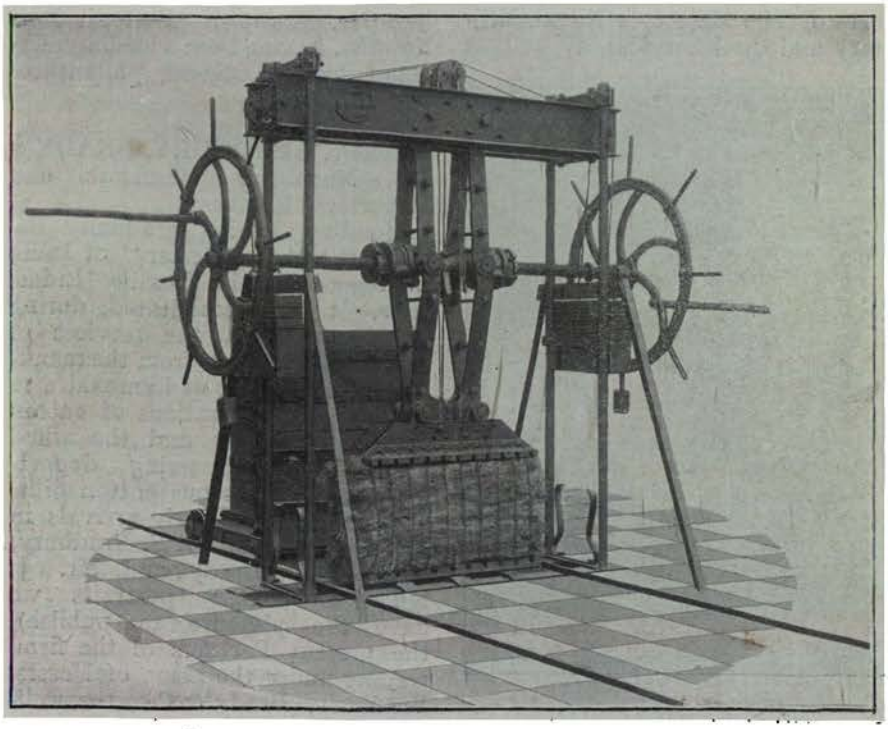
Church Institution, the Bishop's College, the Metcalfe Hall, and the Great Eastern Hotel. For the Corporation of Calcutta they built the fine Municipal Market in Lindsay Street, and they constructed a large portion of the Drainage System of Calcutta, laid the Tramway System, and constructed the Howrah Water Works. The Calcutta Jetties were, with one exception, all constructed by Burn & Co., and the entire town of Jamalpore, on the East Indian Railway, was built by the firm. Amongst factories the Barnagore Jute Mills, the Bengal Cotton Mills, the Budge-Budge Mills, and Messrs. Ralli Brothers' Jute Press at Cossipore, are each examples of Burn & Co.'s work.

The Old Oriental Bank (now the Calcutta Chamber of Commerce) is one of Burn & Co.'s structures. The roofing of the High Court, and its ornamental iron work in the beautiful Gothic windows is also from their works.

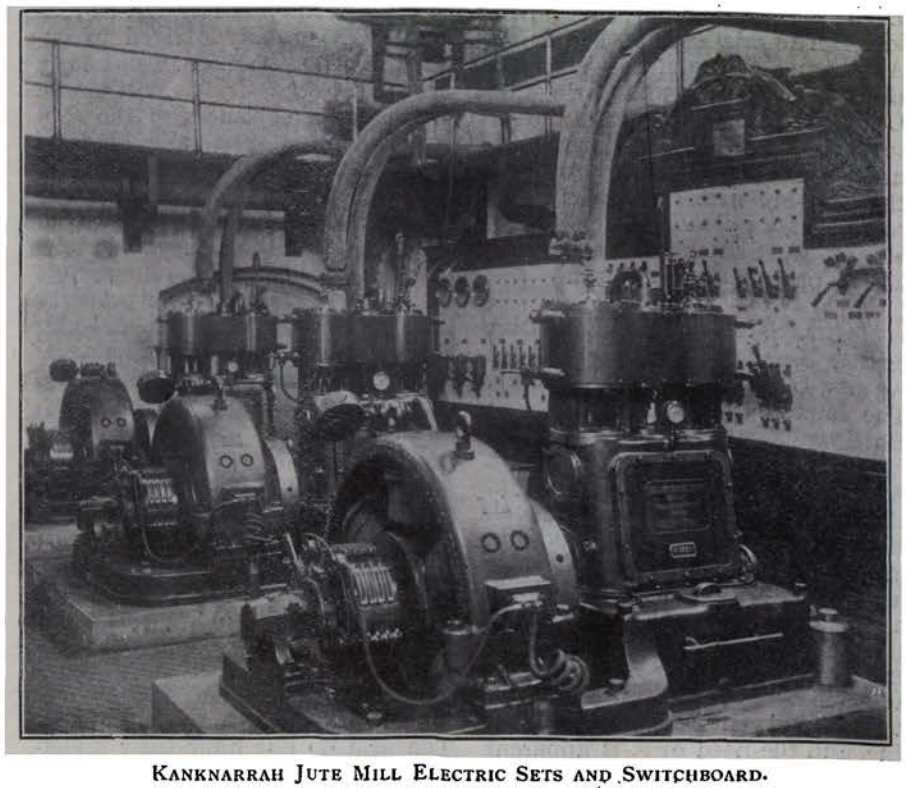
The Medical College Hospital, the Calcutta Madrasah, and Bethune Institution, were all designed and built by the Firm.

Armenian Ghât, once on the river bank but now well inland, is another instance. In fact, it would require a space quite equal to the whole of this volume, in which to enumerate the various buildings, etc., which Messrs. Burn & Co. have erected from time to time, and we regret that we are unable to make even a passing reference to the many Railways they have constructed for the Indian Government. Irrigation is another branch of their work, which must also be left out of this sparse review, and we need only mention two canals, *viz.*, Tribeni on the borders of Nepal, and the Mon Canal in Bûrma, as an indication of the excellent work done in that direction.

Altogether, Messrs. Burn & Co.'s business is far too large and too varied to attempt a description on paper. One must visit the Works to thoroughly understand their vastness, and the more one sees, the more one is able to recognize that only years of conscientious work and good management could have possibly brought the firm to the high state of efficiency in which it exists at the present time.



JUTE PRESS.



KANKNARRAH JUTE MILL ELECTRIC SETS AND SWITCHBOARD.

Messrs. M. M. BOTTLEWALA & Co., Merchants and Contractors, established in 1889, are large dealers in all classes of lubricating oils for the machinery in spinning and weaving mills, cotton gin, presses and factories, railways, marine engines, etc. The firm also deals largely in all classes of best English leather beltings, roller skins, roller cloth, bandings, cotton ropes, healds and reeds, tallow substitute, and all other mill and machinery stores. The firm are contractors to three important Indian Railways, namely, the G. I. P. Railway, the B. B. & C. I. Railway and the N. G. S. Railway for the supply of oils, composition beltings, and all kinds of Railway Stores, and are the Sole Agents in India for the following European Firms:

Messrs. Turner Bros., Ltd., Rochdale; P. K. Millar & Sons, Paisley; Messrs. Robert Proctor of Timperley; W. Walker & Sons, Ltd., Bolton; Messrs. T. Coulthard & Co., Ltd., Preston; Isaac Bentley & Co., Salford; and the Steam Cylinder Lubricator Co., Ltd.

The senior partner of this firm, Mr. H. M. Bottlewala, was born in Bombay in the year 1865, and educated in the proprietary High School, in the same town. Mr. Bottlewala started life as an Assistant Accountant to the Bombay Cotton Manufacturing Co., Ltd., in 1886. After two years' service, wishing to commence business on his own account, he started the present firm in 1889, and his record shows steady development. Mr. M. H. Sanjana is one of the active partners in this firm.

Messrs. S. R. BOTTLEWALLA & Co., Financial and Commission Agents, Bank Street, Fort, Bombay. The founder of the firm, Mr. S. R. Bottlewalla, comes of an old Parsee family, and was born on the 17th April 1869. He was educated at the Bombay Fort High School. Mr. Bottlewalla commenced an independent start early in life, for he was only 17 years of age when he recognized the need of an institution of the nature of his present firm in such a large trade centre as Bombay. At the time, this was a new and entirely independent line, and the need of it is apparent from the large and steady support the firm has obtained from the very beginning. The patrons of the firm number among them ruling native princes and noblemen, members of His Majesty's Naval, Military and Civil Services, as well as

Mr. S. R. BOTTLEWALLA.

private gentlemen and business men all over the country. By the rapid increase of his business, Mr. Bottlewalla was speedily obliged to expand it into the now well-known firm of Messrs. S. R. Bottlewalla & Co. The business of the firm largely consists of all kinds of agency business for rajahs, members of the Services and gentlemen generally. Finance is one of their specialities, and they undertake to negotiate loans of any magnitude on movable or immovable property with secrecy and despatch, and also cash advances on approved personal security. Messrs. Bottlewalla & Co. also buy and sell Government paper, bonds, debentures, shares, etc., collect outstandings, rents and debts, negotiate partnerships, provide capital for starting or extending business, and arrange for the purchase or sale of trading concerns. They undertake to effect Life, Fire and Marine Insurance with the leading Insurance Companies on equitable terms. They also undertake the agency of house and landed property, for sale or hire. The firm do not limit their undertakings, but deal in every kind of property. Mr. S. R. Bottlewalla comes of a well-known family of Bombay Parsees of great business ability, his grandfather, the late Mr. Hormusji Pestonji Bottlewalla, having been a leading merchant and prominent philanthropist of Bombay.

Messrs. BRADBURY, BRADY & Co., Machinery Merchants and Importers, Bombay.

Bombay having gradually become the "Manchester" of India in regard to its Textile Industries, it has necessitated, during its development, the services of skilled Englishmen from the manufacturing districts of Lancashire to supervise the operations of cotton spinning, weaving and the allied mechanical engineering departments in its numerous cotton mills, and amongst the early arrivals in this field were Mr. J. F. Bradbury, Mr. W. H. Brady and Mr. J. Knowles (whose portraits we have the pleasure to publish), the present Partners of the firm, trading under the name of Messrs. Bradbury, Brady & Co., the well-known Cotton Spinning Experts and Engineers.

Mr. J. F. BRADBURY.

This firm commenced business in 1893 as Machinery Agents and Cotton Mill Experts, in the face of keen competition, but their

intimate and practical knowledge of the actual requirements of the trade, enabled them to make steady progress and to carry out extensive contracts for the designing and complete equipment of several large cotton mills in Bombay City and the Mofussil. Thoroughness of purpose appears to have been the basis of their success, and evidence of the appreciation by the public of this quality was shown when they were unanimously chosen as Managers and Agents of The Colaba Land & Mills Co., Ltd., in the year 1901, to resuscitate its failing fortunes, which were at that time at a very low ebb. The task was undertaken with that splendid vigour which characterises the men of Lancashire, and with such signal success as to have placed the Mill on a par with the best in Bombay.

Stimulated by the success they had achieved in the management of The Colaba Land & Mills Co., Ltd., they ventured on purchasing the partially burnt-out property of the City of Bombay Manufacturing Co., Ltd., with the object

Mr. W. H. Brady.

of re-building the Mill and installing new machinery; and in deference to the desire of several influential friends, they eventually decided to form a new joint-stock Company, to be called The New City of Bombay Manufacturing Co., Ltd., which has now been launched under the most favourable auspices.

The firm have also the management and control of The Empire Dyeing & Manufacturing Co., Ltd.,

Mr. J. Knowles.

which, with a special method of dyeing yarns, cotton, etc., in compact forms, is making steady progress.

The firm's business is not, however, restricted to the scope referred to above. Their business operations include the importation of all kinds of machinery, such as steam engines, cotton ginning and pressing plant, water pumping appliances and general expert work in connection with cotton manufacturing and mechanical engineering. They are Agents for the following firms:—Messrs. Asa Lees & Co., Ltd., for Cotton Spinning Machinery; Messrs. Geo. Keighley, Ltd., for Weaving Machinery; Messrs. Douglas and Grant for High-Class Steam Engines; Messrs. Lang Bridge, Ltd., for Dyeing, Bleaching and Cloth Finishing Machinery; The Campbell Gas Engine Co., Ltd., makers of Oil and Gas Engines; The Diesel Oil Engine Co., and many other makers of engineering specialities and accessories required by the Textile Industries.

The B. I. S. N. Co.—The commercial history of India would be very incomplete without mention of the British India Steam Navigation Company. So extensive are the operations of this Company that its influence extends to every port in the littoral of the East Indies, and to those of the East African Coast, the Persian Gulf, Burma, the Malacca Straits; as far North as Jephar, and as far West as London. It was incorporated in 1856, and although it has been in existence only a half century, it possesses a fleet of one hundred and twenty-four steamers. The aggregate tonnage of the fleet is over four hundred thousand tons.

The birth of the Company was in the year 1855. In consequence of a desire on the part of the East India Company for a mail service between Calcutta and Burma, the "Calcutta and Burma Steam Navigation Company" was then formed by Sir William Mackinnon, the late Chairman of the Company. Two small steamers, the "Cape of Good Hope" and the "Baltic," were purchased in England, and brought to India *viâ* the Cape of Good Hope. Under a contract with the Government a semi-monthly service between Calcutta and Akyab, Rangoon and Moulmein was then instituted. This was the beginning of a mail service, maintained for the Government by this Company, that has gradually increased until the annual mileage traversed under mail contracts now exceeds one million miles.

In 1858 and '59 two more vessels were purchased by the Company, and trade was opened up with the ports between Calcutta and Madras. At the time such a service was considered impracticable of accomplishment by the Marine authorities. The practicability of it was however soon demonstrated by the energetic young Company, and simultaneously orders were given for more ships.

Sir William Mackinnon, Chairman of the Company, came to India in 1861-62 and inaugurated a general system of extension on the Company's lines. A coasting service was opened up embracing the whole of the Indian Coast, and contracts having been entered into with the Indian Government, lines were run to the Persian Gulf and the Malacca Straits. Under these contracts the Company undertook to deliver the mail to the prin-

cipal ports in these places on a schedule varying from a fortnight to six weeks, according to the distance of the ports from Calcutta. At the time it was a large undertaking the Company was entering upon, and more steamers became at once a necessity. By the year 1863 therefore seventeen steamers flew the ensign of the C. & B. S. N. Company, and four more were in process of construction. About this time, under sanction of the Board of Trade, the name of the Company was altered to the "British India Steam Navigation Company."

The first serious reverses received by the Company were sustained in 1862-63, when the Steamer "Burma" was lost on the Madagascar Coast, fortunately without loss of life. The new steamer "Bussora" was lost on her maiden voyage to India, and the "Coringa" was driven ashore during a gale in Muscat harbour. Within the year the steamer "Persia" foundered on a voyage from Rangoon to Calcutta in a great cyclone which swept over the Bay of Bengal; and in the same tempest four other steamers were driven ashore. Despite this series of disasters the Company maintained its contract service without break.

The part taken by the new steamers of the Company at the beginning of the Abyssinian campaign is worthy of mention. Nine of these had been requisitioned by the Government, and on arrival at Annesly Bay they were most opportunely able to render aid to the troops in a time of pressing want, by condensing water. Through oversight none of the other steamers utilized had been fitted with condensers, and the 30,000 gallons a day delivered by the steamers of the British India Company were just sufficient for troops and animals.

The opening of the Suez Canal in 1869 produced a revolution in the shipping trade of India. In this connection it is worthy of mention that the S.S. "India" of this Company was the first to arrive in London with an Indian cargo. Proposals for further local extensions of the regular services were received by the Company in the year following, and in 1873 a new contract led to the introduction of several new mail lines and the doubling of the existing services. Simultaneously a monthly service between Aden and Zanzibar was inaugurated under arrangement with the Home Government. This line was subsequently extended to Mozambique, taking in several other East African Coast ports.

MACKINNON GHAT, CALCUTTA.

In times of famine and war, the British India Fleet has always been prominently to the front, and its prompt and expeditious service has earned many encomiums in official quarters. When the South African War broke out, the Company was prompt to answer the Government's demand for steamers. Over twenty steamers were fitted up and despatched with troops in the remarkable time of from 8 to 18 days. This was accomplished despite the fact that many of the number had to be sent from Rangoon and Madras to Bombay to be fitted up. Twenty-three days after the first order was given the first steamer arrived in Durban, and how the situation in Natal was saved by the promptness with which the Indian Government was able, with the assistance of the British India Steam Navigation Company, to despatch the troops is a matter of history. During the troubles in China 37 of the Company's steamers were requisitioned for transport service, and arrived in time to save the Legation. To make good the depletion it was necessary to charter 35 tramp steamers, mainly for the purpose of their great coal-carrying trade. Throughout all the regular mail and passenger services were thoroughly maintained.

More than 100 Agents are engaged in handling the business of the Company throughout the Orient at present. It may be fairly said in consequence that the advantages which trade has derived from the operations of this Company are inestimable.

The Managing Agents of the Company are Messrs. Mackinnon, Mackenzie & Company, of Calcutta and Bombay.

Messrs. BROOKS & Co., Coal, Freight and General Brokers, have their offices at Elphinstone Circle, Bombay, where the firm was established in the year 1870 by the late Joshua Brooks, father of the present partners, Joshua Charles Brooks & George Hughes Brooks, who came to India in 1889 and joined their father's business house. George Hughes was educated at St. Edward's School, Oxford, Joshua Charles put in an apprenticeship of two years on the Training Ship "Conway," and subsequently went to sea for three years, 14 months of this period being service on H.M.S. "Northumberland" as a midshipman R. N. R.

Messrs. BROOKE, BOND & CO., Ltd., Calcutta. Closely identified with India's immense Tea interests is the leading firm of Brooke, Bond & Co., Ld., whose head office is at 17-18, St. Dunstan's Hill, E.C. They are pioneers of the art of tea-blending. Some thirty-five years ago recogniz-

ing the immense possibilities of mixing tea to suit the varied tastes of consumers, Mr. Arthur Brooke founded the Company of which he is the present Chairman. Some years ago the business assumed such proportions that the Company was converted into a limited liability enterprise. Since then its net earnings per year have averaged no less than 15%, and on two occasions offers of a half million sterling for the business have been refused.

A considerable portion of the Indian tea crop passes into the hands of this firm yearly, either for their home trade, or for constituents in other parts of the world.

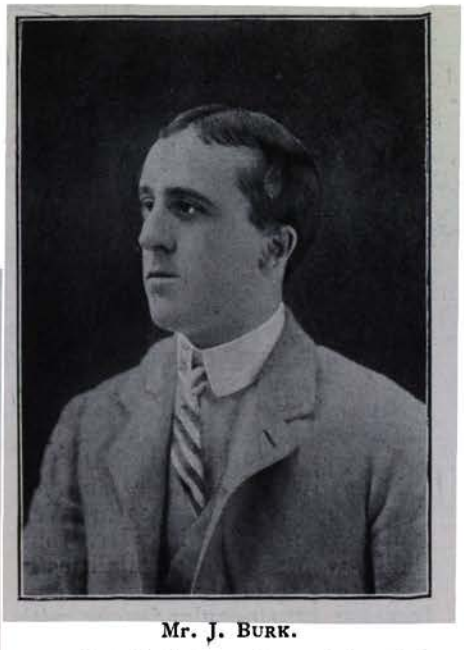
The Calcutta branch at No. 10, Government Place, East, is in charge of Mr. J. R. F. McKay. At this address the firm has handsomely fitted sample rooms and a large warehouse from which many thousands of packets of tea are turned out each week. They employ a large staff and do an extensive business throughout the Empire of India.

Mr. JOHN CAIRNEY BUCHANAN, Resident Manager, Norwich Union Fire Insurance Society, Calcutta, was born in Glasgow in 1872 and has been actively connected with Insurance since finishing his schooling at Larchfield Academy, Helensburgh, Scotland; his first experience having been

Mr. J. C. BUCHANAN.

gained in the County Fire Insurance Office, Glasgow, in 1889. Leaving that Office he gained further experience in the Equitable Fire and Accident Assurance Company, and in the City of Glasgow Life Assurance Company, ultimately migrating to the Norwich Union Fire Insurance Society, Glasgow Branch, in 1894. In October 1899 Mr. Buchanan came out to Calcutta to take charge of the "Norwich Union's" interests there under the Agency of Messrs. Kilburn & Co. In February 1902, when the Society opened out its own Branch Office in Calcutta, to control its agencies in that city and in Northern and Southern India and in Burma, he was appointed Resident Manager in charge. Mr. Buchanan is a Member of the Committee of the Calcutta Fire Insurance Agents' Association, and for two years past has been a Member of the Management Committee of the Young Men's Christian Association. He is also enrolled in the Calcutta Light Horse Volunteers, and is a prominent member of the Calcutta Rowing Club.

Messrs. BURK BROTHERS, Leather Manufacturers of Philadelphia,



Mr. J. BURK.

started their Calcutta Branch in 1898. The export figures of skins shipped to the United States in 1904 by this agency alone were four and one-half million, representing a monetary value of six million rupees. The firm is the only one in India, of the many dealing in skins, that does its own buying. Its members are A. E. Burk, C. D. Burk, and H. Burk, Jr. The main offices of the business are at 409, Arch Street, Philadelphia. Its factories number three, two of which manufacture glazed kid at 930 and 940, Bodine Street, and a third which manufactures patent leather at Camden, N.J. The Calcutta branch was inaugurated by Mr. J. T. Gilman, who likewise managed it until 1900. Since that time the agency has been ably directed by Mr. F. S. Dowling.

Mr. WALTER SAMUEL BURKE. Born in London in the year 1861 was educated on the Continent and at St. Paul's School, London. Came out to India in 1877 to join the Eastern Bengal Railway in the Traffic Department, in which he remained for one year. He left the service of the Railway on receiving a commission in the Royal Indian Marine which he held for three years, leaving the service in 1881 to enter commercial life in Calcutta. He remained in commercial employment for three years till 1885, when he entered journalism, obtaining an appointment as Manager of the *Indian Daily News*. In the service of this well-known newspaper he worked for ten years till the year 1895, in which year he was appointed to act as Sub-Editor of the *Indian Planters' Gazette*. In the following year he was offered and accepted the post of Editor of the *Asian*, an Indian Sporting Journal, which he conducted single-handed for six years till the year 1902, when he started on his own account the journal with which his name is associated, *The Indian Field*, now generally recognized as the leading sporting paper in India. In the conduct of this journal he is assisted by his eldest son, the well-known athlete, rowing man and sprinter, Mr. Walter Charles Burke. Mr. Burke has been twice married, first to Evelina Agnes, daughter of the late Captain W. Pritchard, Bengal Army, by whom he had three children—Walter Charles, Dorothy Isabel and Thomas Harold (deceased); and secondly, to Ethel, daughter of the late C. Goswin Swanseger, Esq., by whom he has one child, Edmund John. Mr. Burke is a well-known sportsman and interested in every kind of sport; his principal amusements are shooting, fishing, rowing and cycling, but he is keen on all out-door games and pastimes. He was one of the founders of the old Naval Volunteers' Athletic Club, he is a keen cyclist and holder of the 25 miles road race record,

1 hour 25 minutes. Winner of Lieutenant-Governor's Cup at the Naval Volunteers' Sports, and of several medals for the same sport, and is a well-known touring cyclist, intimately acquainted with all the roads of Bengal. Author of "Cycling in Bengal," and Consul-General for Bengal for the Cyclist Touring Club of England. He is one of the founders and present Honorary Secretary of the Bengal Cyclists' Association. He is one of the oldest members of the Calcutta Rowing Club and has been Honorary Secretary for over six years. Has won several prizes for rowing and sculling. Founder and Honorary Secretary of the Calcutta Pigeon Club. An acknowledged authority

Mr. W. S. BURKE.

on Boxing and a frequent Referee for that sport, as well as for Wrestling. His old-time exploits as a cross country runner, sprinter and racing cyclist (winner of seventeen prizes), mark him as an ideal Secretary of the Bengal Presidency A. A. Association. As a Volunteer he has continuous service since 1876 and was for years a Sub-Lieutenant in the Calcutta Naval Volunteers, and holds the Long Service Medal. He is the Author of a Naval Volunteers' Drill Book, "Athletic Sports and How to Run them," "Cycling in Bengal," "The Indian Field Shikar Book" (three editions). Mr. Burke is also an amateur histrion of no mean calibre, from burnt cork to comedy. On the stage he is the most famous exponent of the Bengali Babu living. Mr. Burke has always made for what is best in sport, and it was largely due to his journalistic efforts that Lord Curzon was induced to take up the question of game preservation in India with the best results.

Mr. CHRISTOPHER JOHN CALFOPULO, of the Firm of Messrs. F. C. Pallachi & Co., Produce Brokers, was born in Constantinople in the year 1877.

Deciding upon a commercial career, Mr. Calfopulo received his early training as a business man in the offices of Messrs. J. W. Whittall & Co., Merchants and Shipping Agents in Constantinople, and after serving with this firm for about three years, he, in 1899, came out to Calcutta, joining the firm of Messrs. F. C. Pallachi & Co. On the death of the founder of the firm in 1903, Mr. Calfopulo became its head. He is a Member of the Committee of the Wheat and Seeds Trades Association, and is Vice-Consul for Greece.

Mr. J. CALLARMAN, Rubber-Stamp Manufacturer, Calcutta. The commercial uses of the rubber-stamp, and the many ways it can be utilised for business purposes, renders it one of the most indispensable articles in the busy counting-house or warehouse. Small in itself, and simple-looking in appearance, yet its manufacture has led to the establishment of a large industry, requiring the use of extensive premises, and engaging both capital and brains in its production.

The best known Firm in India, in the rubber-stamp trade is that of J. Callarman which was established in 1876 in small premises in Wellesley Street by the late Mr. John Ballin, who saw the possibilities of the article, and that it was bound to come into popular favour with the business public. The business thus established in a small way grew and increased, and a move had to be made to larger premises at 25, Dalhousie Square, where it was thought there would be ample room for the expansion of the business.

During the past few years the business has increased to such an extent, and so many new ideas have been introduced, that the works have become too small to cope with the amount of business coming in, and so a move has been made to a large block of buildings at 25, Mangoe Lane where the business is now carried on.

The excellency of the Firm's manufactures were early recognized, obtaining an award at the Calcutta Industrial Exhibition held in 1883. To his son, Mr. Herbert Ballin, Mr. John Ballin had imparted the knowledge and experience he had gained in the manufacture of this class of goods in the United States of America, and this knowledge has been very instrumental in placing his manufactures in the front rank of the trade. Mr. John Ballin died in 1895, and his son, Herbert, who had been admitted a Partner in the business in 1887, became the Sole Proprietor.

Mr. J. BALLIN.

For over fourteen years this Firm has been the Contractors to the Government of India for the supply of the large number of rubber-stamps required for its many departments, and they have a large clientèle amongst the Banking and Mercantile communities throughout India. Their plant for rubber-stamp making is capable of turning out a complete stamp in the short time of two hours, and can put through upwards of one thousand square feet of rubber-stamps in a day, the rubber used being specially manufactured of indestructible materials by the Firm. Being a practical Mechanical Engineer himself, Mr. Ballin

has made a speciality of repairing the intricate and delicate mechanism of numbering and cheque perforating machines, and is the inventor of the Callarman interchangeable stencil on the interlocking principle. They are the manufacturers of the Callarman's Improved Dater, which will give a million impressions, and also of brass stamps, seals, dating, and perforating machines, these latter being specially adapted for the perforation of Government stamps; and the sole agency for India for the Edison numbering machines is with this Firm. In these works about 50 hands are regularly employed. In addition to the rubber-stamp factory, Mr. Ballin is the Sole Proprietor of the Calcutta Aerated Water Company, and with the thoroughly modern plant erected by him, can turn out upwards of 7,000 dozens a day of aerated water and light refreshing drinks, a total which is unsurpassed by any other similar factory in Calcutta. Since the commencement of this branch of his business in 1890, Mr. Ballin has enjoyed the patronage of four Viceroys including H. E. Lord Curzon and Lord Minto and H. E. The Commander-in-Chief, facts which testify highly to the sound qualities of his manufactures.

Mr. H. Ballin is a Member of the Calcutta Trades Association and has also served as a Commissioner in the Corporation of Calcutta in 1898. He was educated at the Doveton College in Calcutta, ultimately joining the Government Engineering College, Seebpore, where he received his professional training in the mechanical branch of that Institution. Mr. Ballin has travelled extensively, having visited, on business, China, Japan, Borneo, the Colonies, and has been throughout Europe. He is the owner of several properties in Calcutta.

Messrs. CARRITT, MORAN & Co. The firm of Messrs. Carritt & Co. was started in 1875, and the original members were Messrs. Thomas and Alfred Carritt. The partners to-day are Messrs. A. C. S. Holmes and M. Trevor. For the past 30 years they have acted as brokers in tea and general country produce of every description. At present Messrs. Carritt & Co. are general produce brokers only, their tea business being worked under the name and style of Messrs. Carritt, Moran & Co. Messrs. Carritt & Co. took over the tea business of

Mr. M. TREVOR.

Messrs. Moran & Co. in 1902, with Mr. T. Moran as a partner, and since then the firm has been worked, in respect of tea only, under the latter title.

Mr. CLARENCE KINCAID BRIDGNELL, Proprietor, Salutaris Aerated and Mineral Waters, is a son of Mr. James Bridgnell of His Majesty's Mint, Calcutta. Mr. C. K. Bridgnell was born in Calcutta in the year 1860, and received his education in the same city. He commenced his career as a Mechanical Engineer in the Howrah workshops belonging to Messrs. Mackinnon, Mackenzie & Co., wherein he served his apprenticeship. Thence he proceeded to London and completed his engineering training in the workshops of the Great Eastern Railway Co. at Stratford, and with other Engineering firms. After four years' Home experience, he returned to India in 1884, and joined the Crystal Ice Supply Co. of Calcutta, whose works were then in course of erection, ultimately becoming the Superintendent of the Company's Ice Depôts, a position he held for some considerable time. On the amalgamation of the Crystal Ice Co. with the Bengal Ice Co., this appointment was abolished, and Mr. Bridgnell was reappointed as Engineer-in-charge to the amalgamated Companies, now known as the Calcutta Ice Association, and has conducted the duties of the appointment for over four years to the satisfaction of the Directors. On returning to Calcutta after a well deserved holiday, Mr. Bridgnell was offered and accepted the General Managership of the Crystal Aerated Waters Company, and during his tenure of this appointment, by his exertions he has very largely increased the Company's business. Resigning in 1899, Mr. Bridgnell decided on starting on his own account as a manufacturer of high-class Aerated Water, and opened the Salutaris Factory in Wellesley Street. He personally supervised the erection of the necessary buildings, and the special machinery made to Mr. Bridgnell's order by the well-known firm of Messrs. Bratly and Hinchcliffe of Manchester and Birmingham. This plant is capable of turning out one thousand dozens a day. Since then Mr. Bridgnell's business has increased very rapidly, his manufactures having a wide reputation for the maintenance of a standard

Mr. C. K. BRIDGNELL.

uniformity of purity and excellence of quality. As a consequence, he has found his original factory too small to meet trade requirements, necessitating the building and equipping with the latest and most up-to-date machinery of another factory at 6, Sudder Street, Calcutta, which is designed to more than double the previous outturn.

The CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA, Calcutta. One of the leading banking houses of the East, and the oldest established Eastern Exchange Bank in existence, the Chartered Bank, as it is familiarly called in India, was incorporated by Royal Charter in the year 1858. In its inception this Bank had the advantage of being founded and worked on the soundest principles, which, however, were put to a severe test during the disastrous times of the Banking Crisis of 1872. The Chartered Bank standing on secure foundations resisted the pressure of that year which wrecked so many other institutions. After passing this ordeal with great credit, the Chartered Bank continued a flourishing career which has lasted to the advantage of its constituents to the present day There is no Bank that stands higher in the estimation of the mercantile public. The Head Offices of the Bank are situated at Hatton Court, in the world-famous Thread-needle Street, London. Some idea of the widespread nature of the business transacted by this Corporation may be gathered from the fact that there are twenty-five branches and agencies connected with it scattered throughout the East at the following centres :—Bangkok, Batavia, Bombay, Calcutta, Cebu, Colombo, Foochow, Hankow, Hongkong, Ipoh, Karachi, Kobe, Kwala Lumpor, Madras, Manila, Medan, Penang, Rangoon, Saigon, Shanghai, Singapore, Sourabaya, Thaiping, Tientsin and Yokohama. Besides these the Bank keeps an establishment at 16, Exchange Place, New York, U. S. A., and another at Hamburg. The Calcutta Office of the Bank is situate in Council House Street, where it has been established for nearly fifty years, or from the commencement of its history. Great changes, however, are now taking place in this quarter of the City owing to the acquisition of land by the Government, and the Bank has had to make arrangements for leaving its old quarters and to remove to the handsome building in Clive Street which will add another ornament to the edifices of "New Calcutta." The financial condition of the Chartered Bank, nursed through so many years of profitable business, is eminently sound. The paid-up Capital in 40,000 shares of £20 each stands at £800,000. The wise management of the Directors has built up a Reserve Fund (exceeding the capital) of £975,000. The shareholders' liability is another asset of £800,000. The Bank's Charter was renewed on the 31st March 1904 for another period of ten years. The Directors' report presented in April 1905 showed a net profit after providing for bad and doubtful debts of £303,078 odd. The Dividend declared in that report for the whole year was eleven per cent., and the prosperity of the Bank's affairs enabled the Directors to recommend a bonus of fifteen per cent. on the salaries of the staff. In this year £75,000 was added to the Reserve Fund. A balance of £80,078 odd was carried forward. This report was presented on the occasion of the fifty-first Ordinary General Meeting. The Court of Directors for 1905-1906 was made up of the following gentlemen :—

THE CHARTERED BANK OF INDIA, BOMBAY.

William Christian, Esq., Sir Henry S. Cunningham, K.C.I.E.; Sir Alfred Dent, K.C.M.G.; Henry Neville Gladstone, Esq.; Emile Levita, Esq.; Sir Montagu Cornish Turner; Lewis Alexander Wallace; Jr., Esq., and Jasper Young, Esq.

The CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA, Bombay. This well-known

and popular Bank has been established in Bombay 50 years and is the oldest Eastern Exchange Bank in existence. Incorporated by Charter over half a century ago, it stands high in the esteem of the mercantile community, and is one of the soundest institutions of its kind in the East.

The Head Office is situated in Thread-needle Street, London, and in addition to Branches in Hamburg and New York, it has 25 branches throughout India and the Far East.

The handsome premises of the Bank in Esplanade Road are an ornament to the City and a monument of the Bank's prosperity.

Mr. GEORGE MILLER.

Its financial condition is fully evidenced by the following figures:

Capital	£800,000
Reserve Fund	£975,000
Reserve Liability of Shareholders. ...	£800,000

which amply justifies the prominent position it holds in all circles, commercial and otherwise.

The management of the Bombay Agency is under the control of Mr. George Miller who has been a well-known figure in Bombay circles for many years. Mr. Miller's earlier experience of Eastern Banking was acquired in the Straits Settlements and China. Like many of his colleagues he hails from North of the Tweed. He is a useful member of the Committee of the Chamber of Commerce, Chairman of the Exchange Banks' Association, and a Director of the Bombay Telephone Company and the Standard Life Assurance Company.

Messrs. ALEXANDER CLASSEN & Co. are General Merchants and Exporters, and have their head office at 5, New China Bazar Street, Calcutta, where they established themselves in 1897. They deal principally in jute, linseed, wheat and gunnies and have a branch in London under the name of Classen & Co.

Alexander Classen, the sole proprietor, was born in Berlin in 1869, and was educated at University College in that City. After completing his education he acquired commercial practice in several houses of business, both in the Fatherland and in England, and opened the London firm, on his own account, in 1893, under the title of Hussey-Jones & Co. In 1895 he started the firm of Alexander Classen & Co. in Cologne, Germany, and in 1897 the present place of business in Calcutta. Mr. Classen is a Director of various Banking and Industrial concerns in Germany.

Mr. Ernest Grueber, Manager of the Calcutta house, has filled that office since 1897, having served for three years in the London firm from 1894, and previous to this for three years with a firm of General Merchants in Hamburg. He was born in Germany and there educated.

The COMMERCIAL EAST INDIAN AGENCY Co., Ld., Offices, 83, Old China Bazaar Street, Calcutta. The Head Office is at Lahore where the business was started in the year 1882. In Calcutta the office was opened in the year 1904. The chief business of the Company is acting as manufacturers' agents, and it represents the following prominent firms in England and on the Continent of Europe:—Grimwades, Ltd., earthenware, Stoke-on-Trent; Louis Lindner & Sons, dolls and toys, Sonneberg; Falk, Stadelmann & Co., Ltd., lamps and electric fittings, London; Thomas Turner & Co., cutlery, Sheffield; Tom Smith & Co., crackers and sweets, London; D. G. Fischell & Sons, bentwood furniture, Niemes; the Anglo-Belge Glass Association, Ltd., glassware, London; and Messrs. Samuel Moses & Sons, London, army clothing contractors. Mr. Herbert Minck is the Manager for the Company at Calcutta. He was born in the year 1883 in Bombay, and went to England for his education which he received at Bedford College. He returned to India in 1902 and joined the Bombay Branch of the Commercial East India Agency Co., as Manager, remaining in this capacity for a year, and then in 1903 he went back to Europe for the purpose of studying the Home markets. After one year spent in this study he proceeded to Calcutta

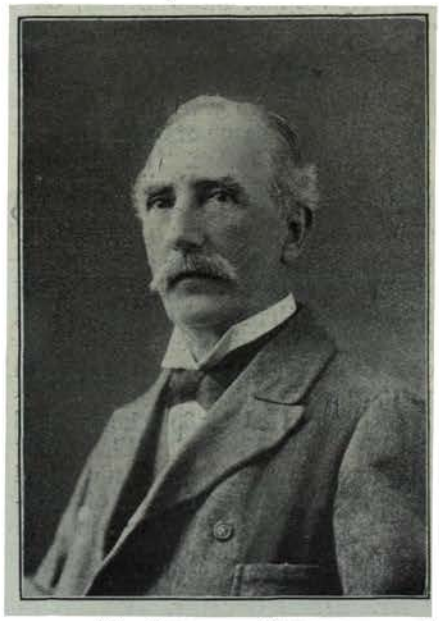
Mr. H. MINCK.

to take up the position of Manager of the Branch at that city, which he still holds. The Company has other agencies at Colombo and Madras.

The COMMERCIAL BANK OF INDIA, Limited. Originally known as the Commercial and Land Mortgage Bank of India, Limited, the Bank was established on 12th October 1885, in Madras, with a Capital of Rs. 2,00,000 and carried on business in that city for some years. In 1895, the expansion of business necessitated an increase in the authorized Capital of the Bank, and it was increased to Rs. 25,00,000 and again in 1896 to Rs. 40,00,000. In the latter year it was also deemed advis-

able to open Branches and make an alteration in the style and title of the Bank, and its designation was then changed to that of "The Commercial Bank of India, Limited," and under this name the Bank has since continued business. In 1900 the Head Office of the Bank was transferred from Madras to Calcutta, and besides the Calcutta Office, the Bank has branches in Karachi, Lahore, London, Madras, Rangoon and Rawalpindi and Agents and Correspondents at most of the leading trade centres throughout India. During the earliest years of its career, the Bank's operations met with the full measure of success anticipated, but some large failures and a lock-up in land and industrial ventures caused for a time a serious set-back in the Bank's earnings and general progress. Since the present management took into its keeping the interests of the Bank, the prosperity of the Bank has steadily resuscitated, and its affairs have been put upon a sound financial basis. A reduction of ordinary share Capital has been made, and the Directors' Report for the year ending 31st December 1904 showed the payment of a dividend of 6% on the Preference shares, and the substantial sum of Rs. 40,000 placed to a newly started Reserve Fund, whilst nearly the same amount was carried forward—results which augur favourably for the future well-being of the Bank. With the return of confidence the Bank should do very well as its Branches are most aptly situated to secure business and to serve the public usefully and extensively.

Mr. REGINALD MURRAY, the Chief Manager of the Bank, was born in London in the year 1845, and was educated at Rugby. He commenced his banking career in the Chartered Mercantile Bank of India, London and China, and came out to India in that Bank's service in 1870, becoming a Manager in 1876, and during the next seventeen years, until 1893, managed several of the Bank's Branches in the East. Resigning that service in 1893, Mr. Murray embarked in business on his own account, in the firm of Messrs. Sinclair, Murray & Company, and was connected with this Firm until 1897, when he was offered and accepted the appointment of Manager to the Commercial Bank of India, Ltd. One of the first duties which devolved upon him on joining his appointment was to open the Branch at Calcutta, and on the transfer of the Head Office of this institution from Madras to Calcutta in 1900, he became the Chief Manager of the Bank, of which he is now also a Director. Mr. Murray is a leading authority in commercial circles on financial and banking subjects, and during his lengthy Indian experience



Mr. REGINALD MURRAY.

of thirty-five years has acquired a profound knowledge of commercial matters, trade and finance. He is also a Director of the Standard Life Assurance Company's Calcutta Branch.

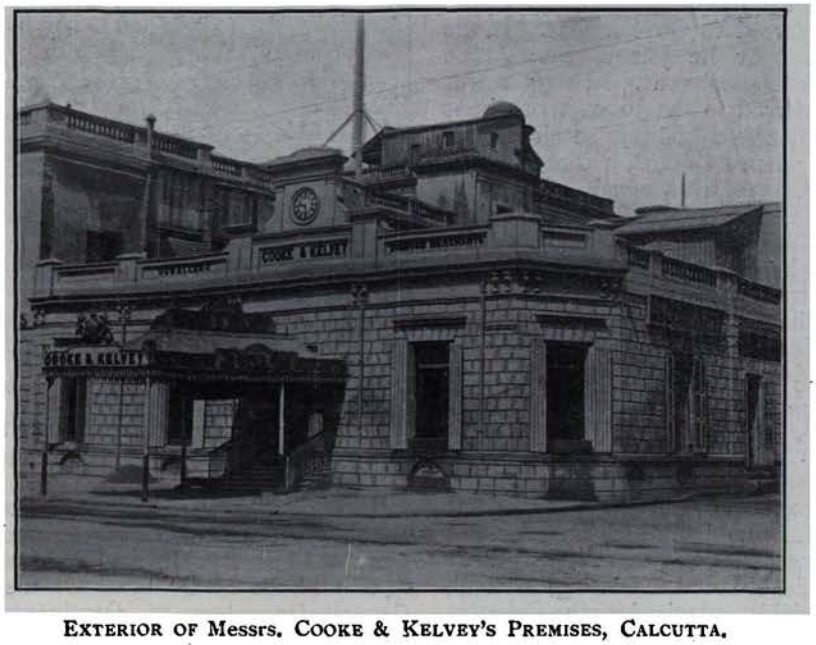
The COMMERCIAL UNION ASSURANCE COMPANY, Limited. When first established in 1861, the Commercial Union Assurance Company, Limited, was mainly designed to be a fire office, for the advantage of the mercantile community, but shortly afterwards it was found beneficial and opportune to establish life and marine branches, the accident department only coming into operation as recently as the year 1900. The Company therefore does business in four departments, namely, Fire, Life, Marine and Accident and Fidelity Guarantee, and holds an eminent position in all four sections, whilst in its Fire department it is surpassed by none. The career of the Company has been an unbroken record of commercial prosperity since its commencement, whilst since 1885 its chief and most substantial successes have been gained. One triumph has led to another, and the remarkable results of its trading in the past few years may be looked upon with intense satisfaction not only by the Shareholders of the Company but also by those responsible for the magnificent results obtained by their judgment and foresight. The Company has a capital of £2,500,000 and its total annual income exceeds £2,800,000. The Head Office occupies three large buildings in Cornhill, London, and in the City and West End it has three branches. The Company's Branches at Home are spread widely throughout the United Kingdom and Ireland, as they are established in Liverpool, Isle of Man, the North of England, North Midland, Midland, Eastern, South Western, and West of England; in Edinburgh, Dundee and Glasgow for Scotland; in Cardiff for Wales, and at Dublin and Belfast for Ireland. Abroad they are established at all of the leading cities and towns throughout the civilized world, and in Calcutta, the chief office for India, the Company's affairs are guided by a strong board of Directors. Since the extension of the Company's operations to India in 1869, their Indian business has made rapid and sound progress in all its sections, and the Commercial Union stands out as one of the leading Assurance concerns in the East. The Manager and Underwriter in Calcutta is Mr. C. L. Fyffe, and the local board of Directors consists of Messrs. A. G. Apcar, Wm. Bleeck, J. G. Dean, and C. Jenkins, thus guaranteeing that the interests of the Company are carefully watched and safeguarded. The fusion of the Hand-in-Hand Fire and Life Insurance Society with the Commercial Union Assurance Company has recently taken place, and the combination of these two Companies is a most powerful one, and there can be no doubt that the arrangement will prove a profitable one for the Shareholders of the proprietary Company, the purchase being attended by no increase of Capital. The Hand-in-Hand was the oldest Fire office in the world, dating back to 1696, whilst even its youthful Life department commenced oper-

ations in 1836, and though by its amalgamation with its latter day contemporary, its time-honoured name will disappear as a separate institution, the partnership thus entered into will doubtlessly prove a profitable one to all concerned. That the Commercial Union Assurance Company is a progressive one, the report published by the Directors for 1904 amply bears out, as in all four of its departments the amount of the funds have been largely increased after duly providing for all contingencies likely to arise, and the year's working showed the substantial underwriting profit amounting to almost £590,000. The shareholders of the Commercial Union have for some time past been enjoying a 40 per cent dividend, and for the year 1904, even this liberal return was exceeded, the dividend for that year being 45 per cent.

Messrs. COOKE & KELVEY, Pearl and Diamond Merchants, Jewellers, Gold and Silver Art Workers, were established in 1859, and hold a leading position in the Indian Metropolis. They have always been favoured with the highest patronage in India: appointed Jewellers to the Earl of Mayo, they have received this favour of appointment from every succeeding Governor-General and Viceroy down to the present day. Their beautifully appointed showrooms are among the largest in the city, and must be seen to be appreciated. Unique in many respects, they are an interesting sight that cannot fail to please the artistic visitor. Here are gathered together rare gems and gorgeous jewels of immense value, collected from all parts of the world, and a carefully selected stock of modern jewellery of the most artistic designs can always be inspected. But not alone for their jewels has this firm become famed. Their splendid display of solid silver, testimonial plate, electroplate, clocks, watches, etc., stands unrivalled. A large manufacturing department in which every description of jewellery and silver work is executed, forms a special feature in this establishment, and the whole working plant being electrically driven enables them to turn out their orders expeditiously with exceptionally high finish and reduced cost. Among the interesting articles which have from time to time been designed and manufactured by this firm, are magnificently jewelled crowns, swords, belts, and other ornaments, silver bedsteads, howdahs, state chairs, challenge cups, shields, address caskets, all of which have been manufactured for some notable occasion, and special mention must be made of the caskets presented to His Majesty the King, when Prince of Wales, on his visit to Calcutta in 1875, and also to H. R. H. the Prince of Wales on his visit in December 1905.

Tower clocks are also a speciality of this firm, and many fine examples of this work have been made

INTERIOR OF Messrs. COOKE & KELVEY'S PREMISES, CALCUTTA.



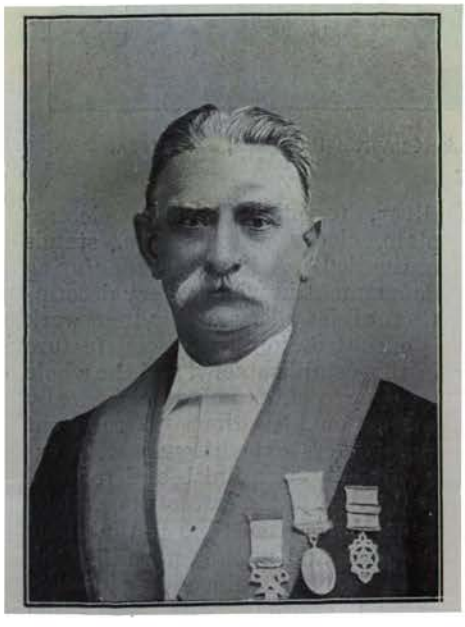
EXTERIOR OF Messrs. COOKE & KELVEY'S PREMISES, CALCUTTA.

and erected in various parts of India.

Being contractors to Government they are large manufacturers of station and office clocks, of which they supply large numbers to the different Railways in this country.

Racing chronograph and complicated watches are also a leading feature of their business. The chronograph watches used by the Calcutta Turf Club for timing all important races have been supplied by this firm for many years past.

Messrs. COXE & Co., Engineers, Manufacturers, Brass and Iron Founders, No. 2, Neemuch Mehal Road, Garden Reach, Calcutta. In 1892 Mr. J. C. Coxe purchased the business from Messrs. Wood & Co. who had established it in 1888. He took it over as a going concern with



Mr. J. C. Coxe.

the right and title of all patents, etc., and carried it on under its present style. Finding it advisable to extend the premises, Mr. Coxe, after one or two removals, established the works at their present site. The firm carries on a large manufacturing business in iron work. When the hourly postal system was introduced in Calcutta and Bombay in 1898 Messrs. Coxe & Co. were entrusted with the manufacture of the whole of the pillar and wall boxes for the post office. They also designed and made the self-opening, closing and locking cubicles for use in Indian Jails. They do considerable work for railways, built the Bengal-Nagpur Railway sheds, and supply travelling cash boxes, safes, etc. Mr. J. C. Coxe designed a system of driving ceiling fans by ropes and took out a patent for the same. The system was tested in Fort William and proved successful. He has also two descriptions of self-acting punkahs driven by springs. The management of Messrs. Coxe & Co.'s business is carried on by Mr. J. C. Coxe and his eldest son, Mr. A. Coxe. Mr. James Cockle Coxe, C.E., the sole proprietor, was born in the year 1845 at Stratford, Essex, and educated at the Collegiate School. He received his engineering training at the Northern Outfall Sewerage Works, London, where he served about three years. He came to Calcutta in the year 1864 immediately after the great Bengal cyclone. Here he joined the East Indian Irrigation and Canal Company as Engineer and partly constructed and opened the first piece of canal in Orissa. He remained with the Company till 1869 when the works were transferred to Government. In the same year he joined the Public Works Department. In 1875 he was transferred to the Jobra Workshops in Cuttack, remaining in charge till 1882 when he went on furlough. In 1883 he was transferred to the Seebpore Workshops and took charge of the Division till 1885. In the year 1886 he went to Shortt's Island to construct the lighthouse. He was on the Island during the cyclone of 1887 when the *Sir John Lawrence* foundered with 1,000 people on board. Although he had with him nearly 300 workpeople on the Island when the cyclone broke over it, he succeeded in saving them all except two men who were drowned, and one woman who died of fright. For this service Mr. Coxe was thanked by the Lieutenant-Governor of Bengal, and highly eulogised by the Calcutta *Englishman*. He completed the lighthouse in 1898, and exhibited the light for the first time on 1st September of that year, having prosecuted the work of erection under the greatest difficulties. He had charge of the Puri District in 1889 as Sub-Divisional Officer, where he remained till 1893. Then followed four years in Bhagalpur, and after that Chittagong on transfer to make good damage done by a cyclone, and to put up a new light in the Kutaldea lighthouse. He retired from Government service in 1899 and took over the management of his present business. Mr. Coxe is a brother of the Craft and ranks high as a Mason. He holds the office of Past District Grand Standard Bearer and Past District Grand Steward, is a member of the Lodge 'Yeatman Biggs' and one of the founders of Lodge 'Federation' and Treasurer of that Lodge. Mr. A. Coxe is the active Manager of the works. He was born in India in 1869 and educated there and received his engineering training from his father and has carried on the works, from the start in 1892.

Messrs. WALTER N. CRESSWELL & Co., Merchants and Com-

Mr. P. W. Cresswell.

mission Agents, Elphinstone Circle, Bombay, are manufacturers of aluminium ware at Byculla and all kinds of metal hollow ware, and are also General Importers of Continental and English piece-goods. The firm was established by Mr. W. N. Cresswell, the sole proprietor, in 1889.

Mr. Percy Willets Cresswell, Manager for Bombay, was born in Staffordshire, England, in 1871 and

was educated at Brewood in that county. He joined the Birmingham Joint Stock Bank in 1887, where he remained till 1892 and then came out to Bombay to take up his present appointment. Mr. Cresswell is a Lieutenant in the Bombay Volunteer Rifles. Mr. F. W. Cresswell fills the office of Assistant Manager.

Messrs. CROFT, MODY & Co., Merchants and Agents, 19, Bank Street, Fort, Bombay, are a well-known firm, established in that city for the last fifteen years. They have rapidly gained popularity considering the keen competition of firms of much longer standing, and are the owners of the large Bone mills situated at Thana. They trade largely in bone meal and bone dust which they export to Europe, America, Japan, Australia and South Africa. They are the Chief Agents of the Gresham Life Assurance Society, Ltd., for India, Burma and Ceylon, which is one of the largest and most up-to-date Assurance Societies, and for which they do a very extensive and profitable business. For some time now they have had another branch of business which is worked as Brandon & Co., in which several refreshment rooms are owned and worked by them, and they have also secured the contract in connection with the dining car service on the G. I. P. and I. M. Railways, a recent innovation which is greatly appreciated by the Indian travelling public. The catering has become deservedly popular in recent years, and is managed most satisfactorily by the firm at great cost. The members of the firms are Messrs. Charles Brandon Boileau, Nusserwanji Jamsetji Mody, and Kekhushru Jamsetji Mody, who have and deserve the good-will and esteem of the public.

Mr. DANIEL ANDERSON CUTHBERT, Late Honorary Secretary, Calcutta Golf Club. Born in the year 1876, in Perthshire, Scotland, and educated at Perth Academy. Mr. Cuthbert entered his business career by joining the Town and County Bank in Perth in the year 1893. He remained there for three years till in 1896 he was offered and accepted a post in the National Bank of India, Limited, and joined the Head Office of that institution in London as clerk. In 1900 he was offered and accepted the post of Assistant Accountant of the same Bank in India and proceeded to this country in the same year.

Mr. D. A. CUTHBERT.

Since coming to India he has served the Bank at Delhi, Cawnpore and Amritsar. He came to the Calcutta Branch in 1902.

Messrs. CUTLER, PALMER & Co., Calcutta, Wine Importers, is the oldest firm of the kind in India. It was established in London in the year 1815, by Mr. George Henry Cutler. On his death he was succeeded by his brother Mr. Frank Cutler, who established a branch in Bombay in 1842. In 1862 Mr. Charles Palmer, the late senior partner, was instrumental in reconstructing the firm, and shortly afterwards, under his direction, the Calcutta Branch was established.

The interests of the firm in India are under the direction of Mr. F. G. Wallis-Whiddett, who is well and favourably known in all the Presidencies of India in connection with the business. Mr. Wallis-Whiddett was born at Gravesend, Kent, in 1870, and after a private education came to India in 1888. He joined the firm of Cutler, Palmer & Company at that time, and has retained the connection ever since. For several years he was Chairman of the Wine and Spirit Association of Calcutta. In Masonic circles, Mr. Wallis-Whiddett is known as Past Master, "Star in the East" Lodge, No. 67, E.C.; Past D. G. S. Deacon, Bengal; Past Provincial Registrar, K. T., Province of Bengal, and as a member of the 18th Degree.

Messrs. DAVENPORT & Co., Merchants and Agents of Calcutta, was established in 1885 by Mr. J. Davenport, the sole proprietor of the firm, who, upon Messrs. Lloyd & Co., a firm of very old standing in Calcutta, going into liquidation in that year, took over their business and resuscitated it under his own name. Mr. Davenport was for many years buyer to Messrs. Lloyd & Co., and has been connected with the Tea Industry for over thirty years, and during this lengthy connection has witnessed the immense strides it has made, the exports having shot up within this period from seventeen millions to two hundred million pounds of tea, or nearly twelve times more than it was thirty years ago. He is an expert in all matters connected with Tea, and is a member of the Indian Tea Cess Association, and a member of the Committee of the Indian Tea Association, Darjeeling and Dooars Sub-Committee. Messrs. Davenport & Co. are very largely interested in the export of Tea, being large buying agents for the Australian, American, Canadian and Home markets and to which they ship large quantities each season. As managing agents and secretaries, they control eight Tea Companies and Estates, in Darjeeling, the Dooars, Cachar and Assam, having an acreage aggregating over 4,400 acres. They also carry on an extensive business in timber, importing teak and other woods from Burma, Japan and Sweden, and as manufacturers of tea chests they do the largest business of the kind in Calcutta. They are also shippers of considerable quantities of indigo, shellac and other indigenous products. This firm is also agents for Messrs. Brownlie & Murray, Ltd., of Glasgow, structural engineers and wire rope manufacturers, and this business was introduced into India by Messrs. Davenport & Co. They are the agents for the Pabst Brewing Co., Milwaukee, U. S. A., and have been instrumental in bringing before the Anglo-Indian public the light beers brewed by this company. With the

development of the mining industry in India, the opportunity has been afforded to this progressive firm of introducing into this country the mining tools manufactured by Messrs. A. and F. Parkes, Ltd., of Birmingham, Messrs. Davenport & Co. being the sole agents for these, as well as for implements for tea cultivation made by the same firm.

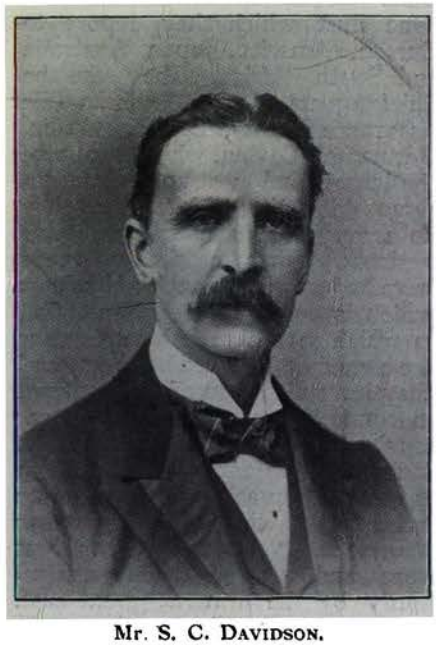
Sir SASSOON J. DAVID, J.P., was born in Bombay in 1849 and was fortunate enough to receive in his boyhood the best education obtainable. While still a young man he proceeded to China, where he was appointed a partner in the firm of Messrs. E. D. Sassoon & Co. He worked for several years

Sir SASSOON J. DAVID.

in the Far East, gaining experience of trade and commerce in the various Treaty Ports, and then returned to Bombay, where, after the death of his father-in-law, Mr. Elias David Sassoon, he started his own business and became a very active competitor with older concerns in the China trade. His ventures succeeded so well that in a few years he became the leading cotton-yarn merchant in Bombay and gained a position of influence among the local mill-owners and opium merchants. He is also the most prominent figure among the Jewish community of India. In cotton mill management Sir Sassoon J. David has been particularly successful, a notable case being that of the David Mills, which were in a hopelessly indebted condition in 1901. He put rupees fifteen lakhs in the concern, individually, by buying up new shares to that extent, abolished the old commission on production, substituting therefor a commission on profits, and 1903 saw a complete rehabilitation of the mill, with a dividend of 6 per cent. The Standard Mill is another flourishing local concern of which he is the principal proprietor. But the cares of mill management and an intimate acquaintance with the affairs of his business in Calcutta, Hongkong, Shanghai, and Japan, as well as in Bombay, by no means absorb all Mr. David's quiet energies. He is Chairman of the Mill-owners' Association, and is representative of that body on the Improvement Trust Board. He is a member of the Municipal Corporation and serves on the Standing Committee of the same. Besides this he is associated either as Chairman or Director with over a dozen public companies. It has also fallen to Mr. David's lot as Sheriff of the city during 1905 to fulfil duties a good deal more active than those usually associated with this ancient and honourable office.

He was instrumental in collecting a large sum of money for the relief of the sufferers from the Punjab earthquake, and took a prominent part in the arrangements for celebrating and commemorating the visit of T. R. H. the Prince and Princess of Wales to Bombay, especially in connection with the establishment of a museum in Bombay in order to permanently commemorate the Royal visit. The honour of Knighthood was conferred on him at the hands of the Prince of Wales on the 14th November 1905. He has shown his loyalty and public spirit by offering a statue of the Prince of Wales to the city of Bombay to be erected on a prominent site in the Fort. He has been chiefly instrumental in the inauguration of measures, in co-operation with the Bombay Improvement Trust, for the relief of overcrowding among the poorer classes and mill-hands. His unobtrusive but liberal-minded charities in private life have done immense good in all directions, while public movements requiring aid have always met with liberal response from him.

Messrs. DAVIDSON & CO., LTD., Engineers, etc., Belfast, Calcutta, Colombo, etc., etc. Mr. Samuel Cleland Davidson, Chairman and Managing Director, owning and operating the "Sirocco" Engineering Works, Belfast, are a firm which need no introduction in India. In connection with the tea industry Mr. Davidson's name has become a household word. At a time when the struggle against China teas was fiercest he was one of the strongest factor in popularising the Indian product: he was also one of the first to introduce commercially and to establish



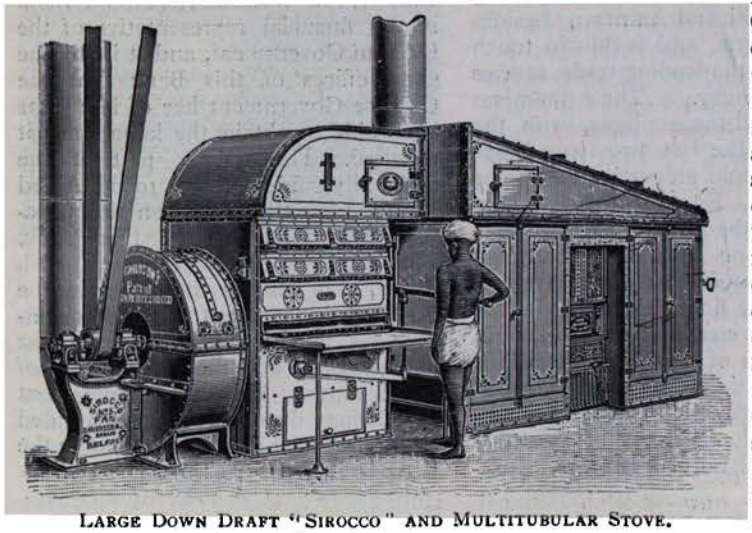
Mr. S. C. DAVIDSON.

agencies for the sale of Indian teas in Europe and America. As an inventor, his reputation is widespread, the famous "Sirocco" machines which cover every process of the manufacture of the tea leaf from the time of plucking to its packing, are entirely his inventions, and these machines are at present employed on almost every tea estate in India, Ceylon, Java, Russia and Natal.

Mr. Davidson was born in County Down, Ireland, in 1846, his ancestors, who were Scots, having settled in Ulster in 1628. He obtained his scholastic training at the Royal Academical Institute, Belfast. At the age of 15 he entered the office of

Mr. William Hastings, a Belfast Civil Engineer, where he spent three years in acquiring a knowledge of surveying and engineering. His father having purchased a tea plantation in 1864 he was sent out to India to learn the business of growing tea. Mr. Davidson arrived in Calcutta only a few days after the terrific cyclone which devastated the country generally.

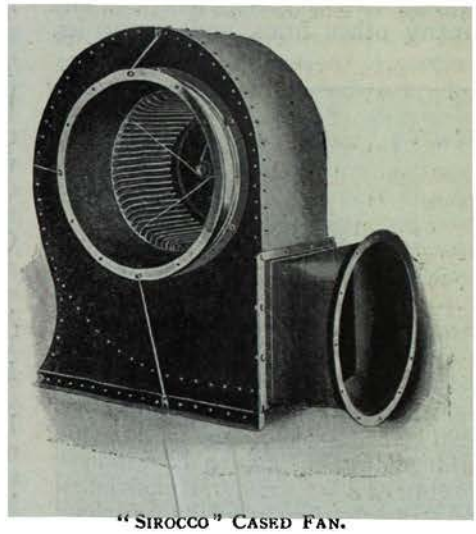
In his account of the sad appearance afforded by the shipping strewing the banks of the Hooghly river near Calcutta, he mentions a large steamer which lay high and dry in the Botanical Gardens close to the famous Banyan tree. For two years he acted as Assistant Manager of an estate at Cachar and then became Manager of the one in which his father was interested. On the death of the latter in 1869 he bought the interest of his co-partner and became sole proprietor. He now found himself in a position to carry out some contemplated improvements in the primitive methods prevailing in the manufacture of tea. Before long he had replaced the wicker basket method of drying, and the "hand and feet" rolling manipulation, with mechanical devices for doing the work. The decided merit of the invention was apparent at once, but there was such prejudice in the minds of the planting community against doing away with the old Chinese methods, that it was not until the demand for teas from the Davidson estate had increased the prices for his products, that prejudice finally gave way. There came a demand for machinery such as he was using, and in 1874 he sold his property, and returned to Belfast to superintend its manufacture by Messrs. Combe, Barbour and Combe. In 1881 he organized the Sirocco Engineering Works, acting for some time as his own Draughtsman and Manager. At that time he employed only about a dozen hands: now it takes 600 hands and a large commercial and office staff, and eight branches, to handle the business. The business was converted into a Limited Liability Company in 1898, under the name Davidson & Co., Ltd. Nothing is manufactured by the Company but Mr. Davidson's patented machinery, which in addition to that which handles the tea leaf, includes the "Sirocco" fans, an entirely new type of centrifugal fan, and one which reverses, in almost every detail, hitherto accepted principles. While in India Mr. Davidson was known as an ardent sportsman. As a polo player, huntsman, and foot racer he displayed that same enthusiasm and vigour which has brought him so far to the front in the business field. At the "Sirocco" Machinery Depôt, 2, 3, 4, 5 and 6, Lall Bazar, Calcutta, a complete stock of all classes of spare parts and renewals, are maintained, in addition to a number of complete machines, Driers, Rollers, Sorters, Packers, and Fans of various sizes, from 5 inches to 60 inches in diameter.



LARGE DOWN DRAFT "SIROCCO" AND MULTITUBULAR STOVE.

Davidson & Co., Ltd., Calcutta, are Sole Agents in India for the following well-known firms:—

Babcock & Wilcox Ltd., Water-tube Boilers and accessories, E. R. & F. Turner, Ltd., Steam Engines, G. & J. Weir, Ltd., Steam Pumps, Condensers, etc., Unbreakable Pulley & M. G. Co., Ltd., W. I. Pulleys, Hangers, Brackets, etc., etc., Irwell & Eastern Rubber Co., Ltd., Mechanical Rubber goods, Samuel Osborn & Co., Mushet High Speed Steel Files, etc., D. H. & G. Haggie,



"SIROCCO" CASED FAN.

Steel Wire Ropes, Aerial Tramways, Scottish Asbestos Co., Ltd., Asbestos goods. The Ceylon Branch of Davidson & Co., Ltd., is at Forbes Road, Colombo.

Mr. HORMUSJEE EDULJEE DAWUR, Merchant and Auditor, Bombay. Mr. Dawur was born at Bombay in the year 1833 and educated at Elphinstone College in the same city. Under the tutorship of Principal Harkness he passed the senior wranglership.

He received his business training at Calcutta in the office of his uncle who was engaged in a large way in the China trade. In this office he served as a junior for some four years and then proceeded to China in the interests of his uncle's firm, and was located for some seven years at Hong-Kong and Canton, managing the branches of the business in those towns. He returned from China to Bombay and, having resigned his previous firm, became Broker in partnership with his brother to Messrs. Finlay, Muir & Co. This was about the year 1863. They subsequently severed their connection with that firm, and Mr. H. E. Dawur started on his own account in correspondentship with Messrs. Anderson, Wright & Co., of Calcutta; Clarke, Wilson & Co., of London; and

Walter A. Clarke & Co., of Glasgow, and the Anglo-Austrian Bank of Vienna. Mr. Dawur also carries on a large audit business, being connected in this department with Messrs. E. D. Sassoon & Co., the Persia Steam Navigation Co. and many other firms and companies.

Mr. H. E. DAWUR.

He is also Manager in Bombay for the Aurungabad Mills. He is assisted in his business by his two sons, Pherozeshaw Hormusjee Dawur, and Maneckjee Hormusjee Dawur, both undergraduates of the Bombay University and thoroughly experienced in the business. Mr. Pherozeshaw Dawur, the eldest son, is a great cricketer and has played in many important fixtures for the well-known Parsee Club of Bombay. He also takes a great interest in athletic sports.

The DELHI AND LONDON BANK, Ltd. Originally designated the "Delhi Banking Corporation." The Bank was founded as far back as 1844 at Delhi; that city was then, as at the present day, one of the largest trade centres of Upper India. Sixty-one years ago Delhi was the capital of the Mahomedan Power in India, and it speaks much for British enterprise and pluck that a Banking Institution should have been established, in what was, in those far-off days, practically an independent Native State, with only commercial treaties and self-interest to bind it in its relationship with the English, as represented then by John Company. In the dark days of 1857, the Head Office of the Bank was situated in Delhi, and when the Mutiny spread from Meerut, and the bulk of the mutinous regiments made for Delhi as their rallying centre, Mr. Beresford was the Manager of the Bank there, and he, with his wife and five children, were amongst those of the European community who fell victims to the mutineers. Of Mr. Beresford's family but two sons survived, who were afterwards educated and started in life by the Bank, one son ultimately joining the Bank's service, and the other the Indian Army. Apparently owing to the outbreak in Delhi, the Bank's Head Office was removed to Lucknow in 1857, and during the memorable siege of the Residency there, Mr. Parry, the General Manager, was one of those beleaguered therein. In 1865 it was found desirable to remove the Head Office to London, and at the same time the title of the Bank was changed to that of the "Delhi and London Bank, Ld.," and under this style it has since continued. In India the Bank has branches at Delhi, Lucknow, Mussoorie, Simla, Karachi and Amritsar, besides that at Calcutta, and is thus in touch with most of the leading trade centres of the country. The premises occupied in all these places, with the exception of the last two named, are valuable freehold properties belonging to the Bank. From its lengthy connection with the East, the Bank has a wide reputation, and has weathered successfully more than once tempestuous times in financial circles in the past, and has steadily held its place in the estimation of the public, its affairs being at all times carefully managed and its interests thoroughly safeguarded both by its Home Board of Directors and its several Local Managers.

Mr. EDWARD JAMES WRIGHT, the present Manager of the Calcutta Branch, was born in the year 1860, and educated at Brighton College, Brighton, and St. Andrews, Scotland. On completion of his education, Mr. Wright commenced his banking career, in the Bank of Scotland, St. Andrews. In 1883 he came to India in the service of the Chartered Mercantile Bank of India, London and China, and in 1894 accepted an appointment in the Delhi and London Bank, Calcutta.

The DEUTSCH-ASIATISCHE BANK was founded in Berlin and Shanghai in the year 1889, the founders being a very powerful syndicate of financial houses and banks in Berlin, Frankfort-on-Main, Hamburg, Cologne, and Munich, connected with German commercial interests in the Far East. With a view of further strengthening and consolidating the Bank's business relationship with China, and at the same time securing a share in the financial business between India and China, the Calcutta Branch was established in October 1896, this being the only branch in India, the other Branches being all in China, with the Head Office in Shanghai. In Europe, the Bank is established at Berlin, and from that City the Board of Directors control the operations. The Bank's interests are chiefly connected with China, though, since the establishment of the Calcutta Branch, a considerable amount of business has accrued in financing the opium and cotton trade requirements between India and China.

In the German Settlements, in the Shantung Province of the Celestial Empire, the Deutsch-Asiatische Bank is the financial representative of the German Government, and it is to the good offices of this Bank that the Chinese Government has of late years been able to obtain the large loans it required. The greater part of the indemnity paid by China to the Allied Powers after the attack on the Legations was paid through this Bank. The development of Railways, Collieries, and Mining industries in the Far East, in favour of German concessionaires, is naturally of much interest to the Bank, and the construction of the Shantung Railway, opening out the Colliery districts, was greatly aided by the financial assistance given by the Bank to the undertaking.

Mr. MAX GUTSCHKE, the Manager of the Calcutta Branch, came to India in 1898 as an Assistant in the Bank, and became Accountant in the same year and Sub-Manager in 1900, obtaining his present appointment of Manager in January 1902, his long Continental Banking experience eminently fitting him for the responsible position he now holds.

Messrs. JOHN DEWAR & SONS, Limited, Scotch Whisky Distillers, Perth (Scotland), London and Calcutta, have been for a considerable period and are now the leading Scotch Whisky Merchants of the world. The establishment of the firm dates from 1846, when Mr. John Dewar, father of the firm's present Directors, whose photos are reproduced, commenced operations in a small way at Perth. That success attended Mr. Dewar's efforts is amply evidenced by the position at present occupied by the Company as one of the leading Export Merchants in Great Britain, and holding the largest stock of Scotch whisky in the world. The success and popularity of "Dewar"

Sir THOS. R. DEWAR.

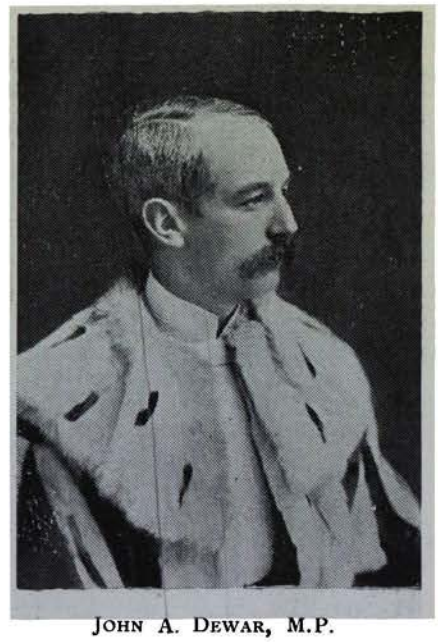
brands throughout the world is largely due to the policy of the firm in always securing an enormous quantity of the oldest and finest whisky distilled in Scotland, enabling them to place on the market, at all times, a whisky of uniform standard, delicious in flavour and beautifully mellowed by great age. The Company's own distilleries, Tullymet, Ballinluig and Aberfeldy, Perthshire, are situated in the heart of the Scottish Highlands, a district famed for its rich barley and fine water, and as the great merit of a Scotch whisky lies in its freedom from deleterious compounds, the firm is consequently in a favourable position to produce a whisky of the highest excellence.

Owing to the increasing demand for their whisky in the Eastern market, Messrs. John Dewar & Sons, Ltd., found it necessary to open a direct branch of the firm in Calcutta. The Calcutta office was established in 1902 in Hare Street, and success, in the shape of greatly increased business throughout India and the East generally, at once rewarded the Company and justified the course adopted. The Hare Street office is now well known to all Wine Merchants in India, who much appreciate the venture of the Company, this being the first time for any firm in the trade to open a direct House in the East; and customers, both in trade and private, can now rely on purchasing the genuine article from Messrs. John Dewar & Son's own premises. Considerable importance ought to be attached to this fact when one remembers how often spurious liquors are placed on Eastern markets by unscrupulous native petty dealers. Agencies have been placed with Merchants in Bombay, Madras, Karachi, Pindi, Lucknow, Travancore, etc., and no matter which part of India a traveller visits, he is certain of securing the renowned Dewar's "White Label."

Direct Branches and Agencies of the firm have also been established at New York, Sydney, Melbourne, South Africa, Barbadoes, etc., with the result that the Company's goods receive preference in all countries supplied through these markets.

Mr. John A. Dewar, M.P., the subject of one of the photos reproduced, is the Company's senior Director. He was elected M. P. for the large Inverness-shire Constituency in 1900 in the Liberal interests, and he has gained considerable notoriety in the House recently by the keen and intelligent manner with which he has tackled the Scottish Education and Crofter questions. He is extremely popular in the County and has his country seat at Abercairney, Perthshire, where he owns a first class shooting box and splendid fisheries, and in this delightful spot Mr. Dewar entertains his many friends during the autumn season.

Sir Thomas R. Dewar, who acts as London Director of the firm, is a man of many parts, who, by dint of perseverance and keen business capacity, first established a London connection for Messrs. John Dewar & Sons, Ltd. Interviews with Sir Thomas have been published so frequently of late that it is hardly necessary to give a résumé of his career in this production. A gentleman who has travelled all over the world, Sir Thomas has gained a knowledge of the various business methods of most countries, and the Company's success is largely due to its taking full advantage of the experience gained by their Director. Sir Thomas is, and always has been, a most enthusiastic sportsman and his name will be remembered in



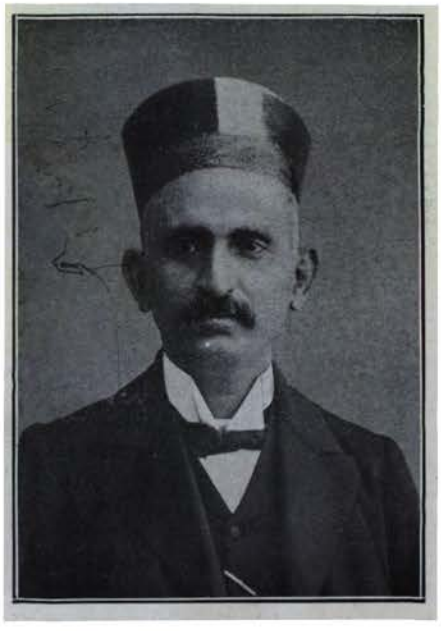
JOHN A. DEWAR, M.P.

connection with the presentation of the London Football Charity Shield, this trophy being perhaps the finest specimen of its kind extant. He also owns a racing stable and does not yet despair of the much-coveted blue riband of the Turf.

Messrs. John Dewar & Sons, Ltd., have been awarded over 50 Gold and Prize Medals, and in addition have been successful in securing the Grands Prix at Paris, 1900, St. Louis, 1904, and Liege, 1905, these much-coveted Honours being awarded them above all competitors. The above undeniable facts are a genuine proof of the superiority of the brands of this famous firm.

Mr. HORMUSJI COWASJI DINSHAW, partner of the firm of Cowasji Dinshaw Brothers, Bankers, Shipping Agents and Merchants, was born at Bombay in the year 1857, and received his education at the Elphinstone College. Mr. Dinshaw joined his father's business and was thus able to gain his first valuable commercial experience, and having passed, as a junior, through the various departments, he was admitted as a partner.

This firm has had a long lease of life having been in existence for over 60 years, and is one of the oldest mercantile firms of Bombay and one of the principal business houses in Aden, with branches at



Mr. H. C. DINSHAW.

Zanzibar and Somali-coast ports and at Hodeidah (Red Sea). Mr. H. C. Dinshaw is the present head of the firm, and is not only the head of the Parsee Community at Aden, but also the recognized head of all the Indian and Arabian races, and enjoys popularity among the whole population at Aden. He acted last year as Portuguese Consul for his uncle, and was knighted by that Government for the services rendered. Mr. Hormusji had the honour of receiving the Prince and Princess of Wales at Aden on their way to Australia in 1901, and of giving an address from the Aden merchants.

Mr. Dinshaw, by hard work combined with indomitable pluck, ability and energy, has succeeded in building up one of the greatest business houses of the East. His father, Mr. Cowasji, had the honour to receive H. M. the King at Aden in 1875 when he visited India. Mr. Cowasji rendered many and most useful services to Government during the Abyssinian Campaign and Somaliland Expedition, for which he received the thanks of Lord Napier of Magdala, Sir William Merewether, the late Admiral Tryon, General Sir Edward Russell, General Sir Charles Egerton, C.B., and Admiral Sir Atkinson Willes, and other distinguished officers.

Messrs. DREWET, CHOWNA & Co., Engineers and Machinery Merchants, etc., Bombay.

Although many of the English makers of mill stores and machinery have made fortunes on their Indian trade, very few indeed have thought it worth while to open their own Indian branches. That this is from lack of enterprise nobody acquainted with the north-country manufacturing firms would for a moment suspect; the fact is that they have been so well served by local agents, the majority of them Native firms, that they have rightly conceived that their business would have its interests best cared for by being left in the hands of these gentlemen, whose knowledge of the peculiar requirements and conditions of Indian trade enables them to show good results where others would fail altogether.

A comparatively young firm of machinery agents, but one which has made good its ambition to be in the front rank of its fellows, is the house of Drewet, Chowna & Co., which, about eleven years ago, set up business in a very modest way, in Elphinstone Circle, Bombay. The firm certainly had no great initial advantages, and its position in the trade world to-day is solely due to the well-applied energy and industry of its founders. The chief lines Messrs. Drewet, Chowna & Co. deal in are engines, boilers, cotton gins, cotton presses, machine tools, pumping engines, and machinery for many trades and manufactures. They are sole agents for Messrs. Thos. Hill & Sons, the well-known boiler manufacturers of Heywood, for Messrs. John and William McNaught of Rochdale, and for cotton presses and pumping engines of Messrs. D. Stewart & Co. (1902), Ltd., of Glasgow.

The Elphinstone Circle premises were in course of time abandoned in favour of more suitable offices in Church Gate Street, but to get any idea of the scope and extent of the business a visit to the showrooms at Wari Bunder is necessary. Here are stocked a considerable variety of machinery, of engines of different sizes, boilers, cotton

Mr. R. D. CHOWNA.

presses and other machinery, and a great number of all parts of machines that are specially liable to wear or break. Only those who have had the experience of having machines idle throughout the long delays of shipping transit, and customs operations, will be able to appreciate the great value of the latter feature of Messrs. Drewet, Chowna & Co.'s business.

Hardly had the firm made its presence felt among the Bombay mills and workshops when it had the misfortune to lose one of its partners, through the death of Mr. Drewet, Junior. Since then

the business has been carried on under the sole direction of the surviving partner, Mr. P. D. Chowna. Mr. Chowna understands and has proved the value of personal acquaintance with his manufacturing clients; during his visit to England four years ago he gained some experience of the business of the firms with which he is in touch, and was able to give them a better idea of the requirements of Eastern Trade.

Among the items of the firm's Indian dealings should also be mentioned their extensive Mofussil trade in machinery and their agency for the Khandesh Press Co., Ltd., at Chopda.

Messrs. DROZ, AMSTUTZ & Co. is one of the oldest and largest houses in India engaged in the importation of high-class watches and jewellery. The business was first established in Bombay in 1884 under the trade name, West End Watch Company, and it is under this designation that it is known to the general public throughout India as the seller of watches that bear its "West End" trade mark. The enormous sale of these watches is principally due to their suitability for use under the conditions peculiar to this country. The firm is also the proprietor of the "Popular," "Whitfield," and other special styles of watches specially adapted for the Indian market.

The firm is a very old established and well-known one in Switzerland, where it has a large factory engaged in the production of all kinds and styles of watches for export to all parts of the world.

Messrs. Droz, Amstutz & Co. deal principally in the watches of their own manufacture, but they also import all classes of Swiss watches, French and American clocks, etc. They have also recently added a special department for the importation of gold and silver jewellery of English and Continental manufacture, and have a very large and varied stock of articles of this description. They are also buyers of precious stones for export to Europe.

Owing to the great development of the business, the firm opened a branch in Calcutta a few years ago, where it carries on a similar business to that conducted in its Bombay establishment, the principal part of its sales in the Bengal Presidency and Burma being conducted by the Calcutta Office.

Messrs. J. C. DUFFUS & Co., Ltd., Jute Balers and Shippers, 10, Clive Row. This firm was originally started by the late Mr. James Duffus, and his brother, Mr. John C. Duffus, entered the firm as a partner. Messrs. Duffus carried on the business as a private concern up to the year 1905, in which year it was converted into a limited liability company. The business of the company is entirely confined to Jute and Jute baling.

The EAST INDIAN OIL MILLS Company—Managing Agents George Mifsud & Co. This Company was formed in February 1906 for the purpose of carrying on business in the pressing of Linseed Oil with the latest machinery available. The plant is of a very up-to-date order, making for that economy of working without which modern industries are impossible. The Works are established at Calcutta and are capable of dealing with some 30 tons of seeds daily. The oil produced by the first class machinery which has been laid down is very fine and clear and of excellent quality. The Company has large contracts to deliver oil pressed by them on behalf of the leading Indian Railway Companies. The promoter and founder of the Company is Mr. George Mifsud, who is a specialist in the subjects dealt with. The East Indian is now the leading up-to-date mill of this class in the East. Only Europeans of experience in the oil business are employed on the managing and engineering staff, but there is also a very large staff of natives employed in the various departments. No expense has been spared in the erection of the mill buildings and machinery, with a view to put it ahead of anything in this line in the East, and its full present output has already been contracted for. The venture has proved the striking success of the method of doing things well.

Sir CURRIMBHOY EBRAHIM. A genial nature and genuine sympathy with the people of Bombay and Cutch have gained for Sir Currimbhoy Ebrahim a high place in Native estimation. He is the illustrious representative of the Pabaneys who are the most prosperous and the foremost amongst the Khojas. His father, Mr. Ebrahimbhoy Pabaney, was a leading merchant in Cutch Mandvi, who carried on an extensive business with Zanzibar and Bombay, and who also owned ships to carry his own merchandise and for the conveyance of trade. He died in Bombay in 1855, leaving three sons, of whom Mr. Currimbhoy, who was born in 1840, was the youngest and a minor, but who turned out the pluckiest and most richly gifted with talent, industry and sound commercial instinct, which often proved to him very profitable. He made very important commercial

Sir CURRIMBHOY EBRAHIM.

connections with well-known centres of commerce. At the early age of 16, he established a firm in Bombay in his own name, and finding the trade with China in a flourishing and developing state he opened in Hong-Kong, in 1857, a firm in the name of his father, and subsequently opened firms in his own name at different commercial and industrial ports, namely, Shanghai, Kobe, Calcutta, Singapore and a number of agencies in different places. Perceiving the growing trade of yarn in China Mr. Currimbhoy took the agency of the Prince of Wales Mill, but as he wanted to found a cotton spinning mill

on a large scale and on new principles, he brought into existence, in the year 1888, the well-known Currimbhoy Mills, and, as was fully anticipated, they have worked most successfully even in bad times. Gradually he added more, and at present four mills, aggregating in all 1,85,000 spindles and 1,200 looms, giving employment to no less than 6,500 workmen daily, are working under the agency of his firm. The success of these mills led Sir Currimbhoy to start a new mill styled "The Fazulbhoy Mill" after his second son, with 4,500 spindles and 900 looms. He also established another ginning and pressing factory at Indore. Mr. Currimbhoy, in order to have unadulterated cotton for his mills direct from the field, established pressing and ginning factories at Yeotmal and Katol in Berar, and his example will have to be followed by many mill agents in the near future.

Sir Currimbhoy is well known as a successful millowner and agent, and one whose services and advice are keenly sought after by the Directors and Shareholders of many other concerns. He is still more famous for his extensive business in opium, cotton, tea, silks and other rich merchandise. His firm is the largest importing and exporting firm trading with the East. Mr. Currimbhoy has fully succeeded in establishing a sound reputation both as a commercial and social Khoja leader, and a respected Bombay citizen. In appreciation of his merits, the Government made him a Justice of the Peace in 1883. He is also a Trustee of the Port of Bombay.

The very admirable trait which lies in Sir Currimbhoy's character is the spirit of charity which he has nobly displayed from an early age. He leads himself and guides many others in the road of charity. He is never fussy nor fond of show. The first flow of his charity was in his own native place. His charities have been very useful to the poor and needy, and he has always been one to ameliorate and raise the social and educational status both of men and women of his community. He is not one of those who believe in what is known as higher education, but is satisfied with a good and solid substratum of general and necessary education, and he encourages its employment in developing commerce and trade. In fact he is a great supporter of primary and religious education, which is greatly needed by his community; and with a view to carry out his aims, he established a Madrassa at Cutch Mandvi, and endowed it with a good building costing Rs. 20,000, where more than 50 boys are given religious and other sound training. Mr. Currimbhoy, finding the female education in his native place in a backward state, through the lack of a school under female management, supplied this want, by establishing a Girls' School, in his father's name, without making any distinction for caste or creed, where about 150 girls receive their training under exclusive female supervision; and thus gave the first great impetus

Mr. MAHOMEDBHOY CURRIMBHOY EBRAHIM.

to female education in his native place. He also established Dharamsalas at Cutch Mandvi and Cutch Bhuj, costing Rs. 30,000. It was through his efforts and good advice that his brother, Mr. Datoobhoy, established a public hospital at Cutch Mandvi. These Institutions are, by a private arrangement, managed by the Cutch Government, and are now held as a source of great welfare and comfort to the people of Cutch. At the time of the recent famines in Cutch, Sir Currimbhoy had grain distributed there at an exceedingly low price. Amongst his various charities in Bombay the most prominent is the Currimbhoy Ebrahim Khoja Orphanage, which he founded for his co-religionists with a donation of more than a lakh of rupees, an institution which distinctly supplied a long-felt want and for which Sir Currimbhoy has fitly earned the gratitude of the poor of his community. In this Institution about seventy destitute orphans are provided with free board, lodging and clothing, and are given systematic moral, physical, intellectual, and religious training, and after being sent out of the Orphanage, those who do not wish to go in for higher education, are engaged by Sir Currimbhoy in different industries under his management. This Institution is managed by prominent members of his community under a trust deed, Sir Currimbhoy being one of them. It is placed on a very sound basis, and has proved to be of very great advantage to his community, and will act as a means of removing beggary and destitution. The private charities of Sir Currimbhoy at his native place, Bombay and elsewhere, are numerous and they amount to a very large sum.

But besides being charitable himself, Sir Currimbhoy is not less eager and keen to assist the successful administration of other charitable and public institutions in Bombay. He is one of the prominent members of the Mahomedan community and is a Vice-President of the Anjuman-i-Islam and the Mahomedan Educational Conference. He has been closely connected with the Madrassa of the Anjuman. He is a member of the Committee of the fund for providing medical aid to women of India, and is also Chairman and guiding spirit of many Khoja charitable and benevolent funds. He was one of the foremost Mahomedans in enlisting himself as a member of the Masonic Craft.

Sir Currimbhoy has also led his sons to take keen interest in the public welfare. His two eldest sons, Messrs. Mahomedbhoy and Fazulbhoy, are Justices of the Peace, and have held seats in the Municipal Corporation for a long time past. Mr. Fazulbhoy has been elected a member of the Standing Committee by the Corporation, in appreciation of his sound knowledge of Municipal affairs. Mr. Fazulbhoy is a Trustee of the Victoria Jubilee Technical Institute, and a

member of the Anjuman-i-Islam, of the Royal Asiatic Society, of the Bombay Sanitary Association, and of the Board of the Sassoon Reformatory.

Sir Currimbhoy's name is associated with almost every important public movement in the city, and there is scarcely any such movement to which he has not contributed his time or money.

In appreciation of the excellent work done by him he was presented with addresses by the Anjuman-i-Islam, which represents the Mahomedan community at Bombay, by the Khojas of Bombay, the Social Union, the members of the Masonic Craft, and from the citizens of different parts of India. Sir Currimbhoy, with a view to develop the commerce and industry of the city, contributed to the Bombay Museum Fund a magnificent donation of Rs. 3 lakhs. In appreciation of his various acts of charity and business ability, H. R. H. the Prince of Wales, during his stay at Bombay, conferred on Sir Currimbhoy Ebrahim with his own hands the honour of Knighthood. This distinction was received with general approbation. A fund was started to entertain Sir Currimbhoy, and the enthusiasm displayed was so great that the fund reached the magnificent figure of about Rs. 63,000; a portion of this fund was utilised in giving a public entertainment to Sir Currimbhoy at the Town Hall, which was largely attended by Government officials and representatives of both European and Native gentry. It was presided over by H. H. the Aga Khan. The surplus of the above fund which amounted to Rs. 50,000 was handed over to Government to utilise for the benefit of the poor of this country and to perpetuate his name. Sir Currimbhoy, with a view to place the fund on a more solid basis for the benefit of the poor, generously contributed Rs. 50,000 towards the fund.

The CURRIMBHOY MILL is the first of the four spinning mills at present working under the agency of Messrs. Currimbhoy Ebrahim & Co. Sir Currimbhoy, the founder of this famous Bombay firm, carried on extensive business operations long before he began to take a practical interest in the cotton spinning industry, and it was not till 1886 that the project of erecting a mill entered his mind. The proposal very soon assumed a practical shape, and the Currimbhoy Mill was registered in July 1888 and started work in April 1890 under very happy auspices. It is one of the largest and most elaborately equipped spinning mills in Bombay, and has paid its shareholders handsome dividends. The Currimbhoy Mill started with a Capital of Rs. 8,00,000 divided into 800 shares of Rs. 1,000 each. It has 37,000 spindles and gives employment to over a thousand work-people. The building including the land has cost 6 lakhs of rupees, and another 11 lakhs have been expended on the machinery, all the latest inventions and improvements being freely used. The mill is furnished with a splendid electric light installation and has a very efficient fire service. Its production of yarn averages 600,000lbs. per month or roughly speaking over 16lbs. per spindle, a very satisfactory result. Sir Currimbhoy's efforts for the advancement of mill industry have been amply rewarded, and the popularity of this mill is seen in the readiness with which its shares are taken up by the investing public.

The success of this concern soon encouraged Sir Currimbhoy to extend his operations in the same line and the Mahomedbhoy Mill was his second venture. It was started in July 1899 and came into full working order in November of the same year. One point specially to be noted about this mill is that it is a present to the shareholders of the Currimbhoy Mill, built as an extension of the Currimbhoy Mill, the shareholders not being called upon to contribute anything to its erection. The Mahomedbhoy Mill has cost quite as much as the Currimbhoy Mill and its production is about the same, so that the shareholders of the Currimbhoy Mill get their dividends from not one but two separate mills. The cost of the building, which is wholly fire-proof, has been 7 lakhs of rupees, and the machinery account shows an expenditure of over 9¼ lakhs. It has 27,000 spindles and employs very nearly a thousand workmen. Thus the amalgamation of the two mills has been a distinct advantage to the shareholders as the profits have proportionately increased. The two mills combined have over 64,000 spindles and give work to more than 2,000 work-people.

Stimulated by the great success which met these two concerns, Sir Currimbhoy soon started another mill—the Ebrahimbhoy Pabaney Mill. This is also a wholly fire-proof building and its construction has involved an outlay of about 9 lakhs of rupees. The machinery alone has cost over ten lakhs and comprises all the latest improvements. It has 44,000 spindles and employs about 1,100 hands, and its production amounts on an average to 700,000lbs. per month. Registered in December 1895 it was started in September 1897 with a capital of Rs. 8,00,000 divided into 800 shares of Rs. 1,000 each. This mill also has worked with success and its shareholders have no cause to be dissatisfied with their investment.

About the year 1900 the agency of the Damodar Lakhmidas Mill Co., Ltd., which was then in the hands of Messrs. Lakhmidas Khimji & Co., was transferred to Messrs. Currimbhoy Ebrahim & Co., and the readiness with which the shareholders of the then Damodar Mill acquiesced in the transfer shows the confidence which the investing public have in the honesty and economy with which all Sir Currimbhoy's concerns are managed. This mill had originally a capital of Rs. 9,61,000 divided into 961 shares of Rs. 1,000 each, but in December 1904 the capital was raised to 10 lakhs divided into 10,000 shares of Rs. 100 each. There are 36,500 spindles in this mill and a weaving shed is in course of erection, orders for 582 looms for which being already placed with Messrs. Platt Bros., the well-known manufacturers at Home. The Damodar Mill is now re-baptised under the name of the Crescent Mill and is already working at a profit. Thus there are nearly 1,45,000 spindles and 4,000 work-people in the four mills worked by Messrs. Currimbhoy Ebrahim & Co., and it speaks highly to the credit of the agents that their administration should be so successful. All the mills have electric light installations and maintain a most efficient fire service. Their fittings are all up to date and in point of ventilation and other comforts the agents have left nothing undone to make their mills the model mills of Bombay.

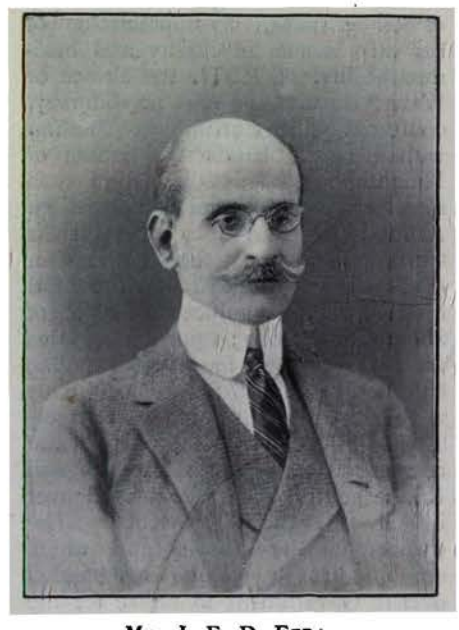
Mr. M. M. Fakira is the sole manager of all the four mills, and it is in a great measure due to that gentleman's careful management that the mills are working so satisfactorily. But Sir Currimbhoy's venture into the mill industry of Bombay does not end here. Latterly he has been thinking of building a new mill, spinning and weaving on an even larger scale than the present mills, and arrangements have already been made for the building of the Fazulbhoy Mill to be named after his second son, Mr. Fazulbhoy, who has gradually made himself the right hand of his father in his vast business. The erection of this mill will soon be taken in hand, and, when completed, it will be a splendid addition to the number of first-class mills in Bombay. The Fazulbhoy Mill will be fitted up as a spinning and weaving mill and will have 60,000 spindles and 2,500 looms with a pair of engines of 2,400 H. P., and the whole of the machinery will be of the latest improvement.

Besides these spinning mills Sir Currimbhoy has ginning and pressing factories at Yeotmal and at Katol in the Berars and in other districts also. There are 80 gins in Yeotmal and 60 in Katol, but the latter number is to be increased to 100 owing to pressure of work. These factories are also under the agency of Messrs. Currimbhoy Ebrahim & Co. with a capital of Rs. 4,00,000. They have worked very well in the past, and the future, in the words of Mr. Jamsetji Ardasur Wadia who presided at a recent meeting of the shareholders, is very promising. A new factory is in contemplation and will be erected somewhere in Indore.

One cannot finish this short sketch of Sir Currimbhoy's mills without making mention of the gentlemen who form the Board of Directors. Sir Sassoon J. David is the Chairman and the Directors are Mr. Jamsetji Ardasur Wadia, Mr. Mahomedbhoy Currimbhoy Ebrahim, Mr. Fazulbhoy Currimbhoy Ebrahim, Mr. Gulam Husen Currimbhoy Ebrahim, and Sir Currimbhoy Ebrahim (ex-officio) for all the mills. Mr. Lakhmidas Khimji also being a Director for the Crescent Mill.

Messrs. CURRIMBHOY EBRAHIM & Co., Merchants and Mill-owners, rank as one of the oldest firms in India, and a leading House connected with the trade of this Empire with the Far East. This firm was established at Bombay as far back as the year 1856 by its present senior member, Sir Currimbhoy Ebrahim. Subsequently Sir Currimbhoy opened branches of his firm at different centres of commerce, at Hong-Kong, Shanghai, Kobe and Singapore, in the name of his late father Ebrahimbhoy Pabaney, and at Calcutta in his own name. Through these branches he is carrying on an extensive trade in opium, cotton, yarn, silk and other rich merchandise. For a number of years Sir Currimbhoy kept his vast business in his own hands, but in the year 1891 he admitted his two sons, Messrs. Mahomedbhoy and Fazulbhoy, as partners in the firm. From the date of their advent the business has greatly increased in the direction both of commerce and of industry. Later on Sir Currimbhoy's third son, Mr. Gulam Husen, was also admitted in the firm. Successful management added a great deal year by year to ever-increasing prosperity, and the firm is now held to be the greatest importing and exporting house in India trading with the Far East. The success of the firm in the mill industry can easily be indicated by its magnitude, now representing a total value of (£747,000) 112 lakhs of rupees with a subscribed capital of 28 lakhs. These values are likely to be increased considerably, as Sir Currimbhoy is going to introduce weaving in his mills, and has also a new mill under construction, which will be a spinning and weaving concern, named after his second son, the Fazulbhoy Mill, with a capital of Rs. 20 lakhs. Sir Currimbhoy's firm also owns ginning and pressing factories in different parts of Central India and are also agents for the Sun Insurance Office of London.

Messrs. E. D. J. EZRA & Co., Merchants and Commission Agents, 59, Ezra Street, Calcutta. Established about 70 years ago by the late Mr. D. J. Ezra. As originally founded, the firm devoted its attention to dealings in indigo, opium, hides, gunnies, rice and precious stones. The founder's trade in these commodities was conspicuously successful, and the great wealth which he acquired in the business was steadily invested by him in real estate, chiefly house property in Calcutta, the management of which latterly became so onerous that the firm has practically ceased commercial operations and devotes its attention to its extensive landed property. Mr. David Joseph Ezra, the founder of the fortunes of the Ezra family in Calcutta, was born in Bagdad early last century and came to Calcutta with his father at the age of thirteen years. After a short stay the father decided to return to his home in Bagdad, but the son, after his experience of Turkish rule in



Mr. J. E. D. EZRA.

his early years, preferred to remain under a more enlightened Government, and decided to establish himself permanently in Calcutta, which for all the remaining years of his life he made his home. He established trade first with the Persian Gulf and later with the Straits Settlements and China in the above commodities, and with the proceeds rapidly acquired landed estates in and near Calcutta. He died at the ripe age of 87 in the year 1882. Mr. Elias David Joseph Ezra, his son, succeeded him as the head of the firm, coming to it with the experience gained in

many years of management during his father's lifetime. Mr. E. D. J. Ezra, in addition to his business responsibilities, found time to devote his attention to public affairs, in which he took an active part, being for many years a Justice of the Peace, a Municipal Commissioner and an Honorary Magistrate. He also served as Sheriff of the City of Calcutta. He died at the age of 56 years in 1886, leaving his son Joseph Elias David Ezra to succeed him. The latter gentleman is now the sole partner in the firm, in the management of which he is assisted by his brother, Mr. David Ezra. Mr. J. E. D. Ezra has spent his life in the business which he joined at the age of 14 in 1871. Like his father, he has always taken an active interest in the public life of Calcutta and served as a Municipal Commissioner for a good many years. He has also served as Honorary Magistrate and was Sheriff of Calcutta for one year. Mr. David E. D. Ezra, the present Manager of the firm, was born in 1871 at Poona and educated in Bombay. He started his business career as an apprentice in the firm of David Sassoon & Co. of Bombay, with whom he remained some three or four years. He then joined his present firm with which he has remained ever since.

FARBENFABRIKEN vorm. FRIEDR. BAYER & Co., Aniline and Alizarine Dye Manufacturers and Pharmaceutical Specialists of Elberfeld, Germany, represented in India by the Farbenfabriken Bayer & Co., Ltd., Bombay. Managing Director, Charles Vernon. The Bombay Branch of this well-known business firm was opened in the year 1890, and is the head office for British India. There is a subordinate Branch also at Calcutta. The manufacturing business of the Company is carried on in Germany at Elberfeld and at Leverkusen on the Rhine, where the Company possesses large works. The business originated in the year 1850, being established by Herr Friedrich Bayer. In the year 1860 it was converted into a Company under the style of Friedrich Bayer & Co., and in the year 1861, into a Limited Company under its present designation. Originally the business of the firm was devoted to trade in natural dye-stuffs, such as indigo, etc. When the process of manufacturing artificial dye-stuffs from coal-tar was introduced, Friedrich Bayer & Co. were early in the field, the first product they attempted being Magenta. This was quickly followed by other coal-tar products, and in the year 1871, Alizarine and its derivatives began to be largely turned out at the first-named works. The field was then further exploited and the manufacture of pharmaceutical products, Phenacetine, Sulphonal and like products was undertaken. The Company has been very prominent in improving processes connected with the industry of artificial dye-stuffs, and now more than one thousand different dye-stuffs alone are produced at their works in Germany. Of pharmaceutical preparations, the Company produces more than forty different kinds, including Phenacetine, Sulphonal, Trional (both hypnotics), Iodothyrine, Salophen and Aspirin, and other well-known medicines. An important and useful remedy in alimentary disorders is their Somatose, which has become a highly popular prescription with physicians in all parts of the world. The consumption of this product is now greater than that of any similar product. The Company, indeed, hold several thousand patents for chemical products, and have received distinctions at exhibitions at Paris, Philadelphia, Bradford, Milan, Chicago, Vienna, and Frankfort on the Maine, and again at Paris in 1900. Also at Dusseldorf in 1902, the Company obtained the State Gold Medal for industrial excellence. There are 23 Branch Offices and 124 Agents in all parts of the world. Their works in Germany are equipped in the most thorough modern manner. Every arrangement is made for the advancement of the subjects handled by the Company. There is a Library of 14,000 volumes and 25,000 dissertations at the disposal of the members and employés of the firm, besides some 190 technical journals in the reading rooms. The Company now employs about 5,425 work-people, of whom 1,800 are experienced mechanics. The works at Leverkusen cover some 448 acres, and the works at Elberfeld, Barmen and Schelploh bring up the total to 742 acres. Many industries in connection with the principal business of the Company are carried on at the different works, these being as much self-contained as possible. Every attention is paid to the comfort of the work-people, for whom cottages built in up-to-date style are provided at nominal rents. There is also a savings bank, a relief fund, and a pension fund, and hospitals where every medical aid is supplied the employés free—the Company entertaining three doctors of medicine besides whom there are eleven club doctors. The business of the Company is of world-wide importance, and everything connected with it is on a large and efficient scale.

Messrs. FINLAY, MUIR & Co. have been established as Merchants in Calcutta for over thirty years, and, with the firms of that name in Bombay, Karachi, Colombo and Chittagong, represent the interests in India and Ceylon of Messrs. James Finlay & Co., Glasgow, Liverpool, and London, a firm founded in the latter part of the eighteenth century, and whose business connections with India date back to that early period.

Messrs. Finlay, Muir & Co., while being associated with the various interests of the Home firms, are identified with a large number of Tea estates in North and South India, and have been for many years past the largest exporters of Tea from British India, their shipments from Calcutta, Chittagong and Tuticorin during the past season aggregating some 38 million lbs. of Tea. Messrs. Finlay, Muir & Co. are largely interested in Jute, being the Calcutta Agents for the Champdany, Wellington and Calcutta Twist Mills, and Messrs. M. Sarkies & Son, Jute balers of Naraingunge. They have a considerable interest in Indigo, while they act as agents in Calcutta for the Bengal-Dooars Railway Co., Ltd., the Assam-Bengal Railway, the Golabarry Jute Pressing Company, the Clan Line of Steamers, and several leading Insurance Companies.

Since the death in 1904 of Sir John Muir, *Bart.*, who was senior partner in the firms of Messrs. James Finlay & Co., and Messrs.

Finlay, Muir & Co., that position has been occupied by his son, Sir Alexander Kay Muir, *Bart.*, who was resident in Calcutta for a number of years.

Mr. DAVID CORSAR BLAIR was born in Dunblane, Scotland, in 1861. He was educated in that district and began his business career in 1878 in the house of Messrs. James Finlay & Co., Merchants, Glasgow. Eight years later he came out to Calcutta for Messrs. Finlay, Muir & Co., of which firm he is now one of the Managers. He is a Member of the Committee of the Bengal Chamber of Commerce and of the Indian Jute Mills Association, and on the latter body he served as Chairman in 1899-1900. He is also the Chairman of the Calcutta Hydraulic Press House Association.

Mr. DANIEL MACFARLANE INGLIS, of Messrs. Finlay, Muir & Co., Merchants and Agents, Bombay, is a son of the Manse, born at Kilmaurs. Ayrshire, Scotland, and educated at Kilmarnock Academy. On leaving school in 1882, he entered the office of Messrs. James Finlay & Co., East India Merchants, Glasgow, and early in 1890 proceeded to the East in connection with the business of this firm. In 1892 he went to Karachi to take charge of the branch office of the firm there. He is now Manager of the large business of the firm in Bombay.

Mr. Inglis is one of the two representatives of the Chamber of Commerce on the Municipal Corporation. He takes a keen interest in religious philanthropic work and devotes much time in particular to matters relating to the Scottish community. He is an Elder and Session Clerk of St. Andrew's (The Scots) Kirk, and a member of the Committees of the Bombay Scottish Orphanage Society and the Bombay Scottish Education Society, in which he has held most of the offices including that of the Chairman for a term.

Messrs. SAMUEL FITZE & Co. (Private Company), Merchants and Agents, have their offices at Bombay, Calcutta, Karachi and London. They established themselves in the Capital of the Western Presidency in 1896, at an unfortunate season when the plague broke out, and like other firms had an anxious time. Patience and hard work, however, brought reward in successful and increasing business connections which are well maintained all over India, where, in addition to their own business, they hold many valuable agencies. Mr. Vernon Milward-Bason is the Partner-Director of the Company. He has had a wide experience both in India and Europe.

Mr. Milward-Bason is also Managing Partner of Messrs. Devereux & Co., who were also established in Bombay in 1896 as a wholesale firm of Wine Merchants, and who, despite the plague handicap, have managed to promote extensive dealings with Clubs, Army and Navy Messes and the more influential residents throughout India. They hold one of the finest selections of wines and spirits it is possible to get together, and are also agents for some of the most important and well-known distillers and wine-growers in various parts of the world. All the business houses of these two Companies, in various parts of India and in London, are under the personal management of Partners.

Messrs. JOHN FLEMING & Co., Merchants, Bombay, well known and of high repute, were founded by the late Mr. John Fleming, C.S.I., whose business experience in India extended back to some years before the Mutiny. Of Mr. Fleming's commercial ability and personal qualities it is difficult to write in fitting terms, and it is not too much to say that the foundation of the present Port Trust of Bombay was laid by him, when in his far-seeing sagacity and against a great deal of local opposition, he inaugurated the scheme of reclamation of the foreshore of the eastern side of Bombay Island, a scheme which was persistently and steadily carried out in spite of the troublous times which assailed the City of Bombay during the famous share mania of 1864.

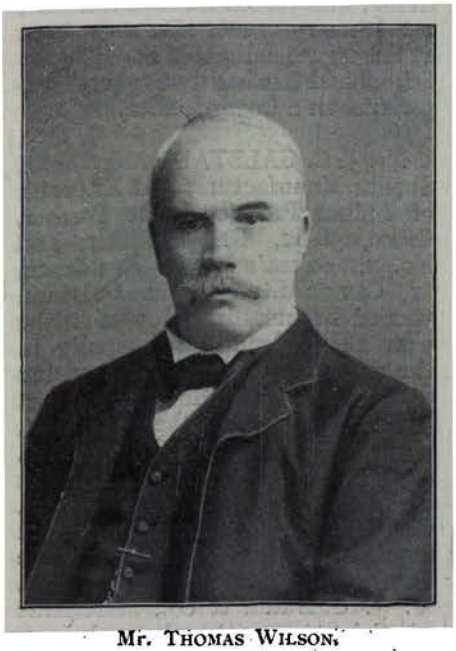
Mr. John Fleming took in as partner in 1879 Mr. Thos. Wilson, who is at present the proprietor of the firm, and who had been connected with Mr. Fleming in business from the year 1868. With a third partner Mr. Fleming and Mr. Wilson were the contractors for the building of the Victoria Dock, Bombay, a great work which was carried out in a most successful manner and to the complete satisfaction of the Bombay Port Trust Authorities. So energetically, in fact, was this contract worked, that it was finished three months before the contract time.

During the last 20 years Mr. Wilson has set himself to establish and develop this business mainly in the direction of Engineering, and for some years past Electrical En-

THE LATE MR. JOHN FLEMING.

gineering has formed a very important feature in the scope of the firm's operations. Amongst the many important works successfully carried through may be enumerated the electric lighting of the Crawford Market, the Government Telegraph Office, the Yacht Club Chambers, Messrs. King, King & Co.'s new offices, the new Admiralty House, Messrs. Wheeler & Co.'s new building, and many others in the City of Bombay itself; the lighting of the great Palace of H. H. the Gaekwar at Baroda, of the Makarpura Palace belonging to the same Prince, of the Palace of the Maharaja at Bikanir,

and of the Palaces at Jodhpur and Indore; of the Agra Club, etc., etc. Besides these works Mr. Wilson's firm have been running an electric



Mr. THOMAS WILSON.

installation for the Municipality of Delhi for over three years, this installation comprising 45 arc lamps, besides many incandescent lamps, punkhas, etc.,—the first municipal installation in India.

The firm has also executed considerable contracts for water-supply, drainage, etc., for such cities as Bombay, Delhi, Lahore, Peshawar, Karachi, Kotah, etc., etc.

Throughout the west and north of India, it is safe to say that no firm has a higher reputation for their integrity and for the excellence of the work they carry out.

Messrs. FLEMING, SHAW & Co., 8, Elphinstone Circle, Bombay. The partners of this firm are Mr. F. W. Shaw and Mr. John Pollard. They are Agents for the North British and Mercantile Insurance Company, the Guardian Assurance Company, the Netherlands Fire and Life Insurance Company, Fatum Accident Insurance Company, the Union Marine Insurance Co., Ltd., and the London and Provincial Marine and General Insurance Co. They are established in Karachi and their partner there is Mr. Edwin Yeo. The corresponding firm is Messrs. Beith Stevenson & Co., Manchester.

Messrs. C. H. B. FORBES & Co., 10, Hummum Street, Bombay, Merchants and Commission Agents, Secretaries and Agents for Joint Stock Companies, and Electrical Engineers and Contractors.

This firm was established in Bombay under its present name in the year 1879, when Mr. C. H. B. Forbes took over the business of the former firm of Forbes & Co. established as far back as 1760. The duration of their business connection with Bombay thus extends over a century.

They represent the following Insurance Companies :—

The General Accident Assurance Corporation, Ltd., of Scotland, which carries on Fire and Accident Insurance business. This Company recently acquired by purchase the business of the Bombay Fire and Marine Insurance Company and carry on business in Bombay under that name assisted by the Local Board of Directors.

The Tokio Marine Insurance Company of Japan, and the Mannheim Insurance Company.

Also the Scottish Amicable Life Assurance Society.

The Senior, Mr. Charles Henry Buchanan Forbes, was born in Scotland in 1847, received his education at Trinity College, Glenalmond, and came to India in the year 1872. Mr. Forbes is the Consul for Siam. He is also a member of the Bombay Municipal Corporation and a Trustee of the City Improvement Trust, in which bodies he is the chosen representative of the Bombay Chamber of Commerce.

The other Partner of the Firm is his son, Mr. Alister Forbes. The Assistants are L. C. H. Young, Esq., who signs per pro.; W. Scott Harland, Esq.; J. F. Luscombe, Esq.; and E. Lee, Esq.

Messrs. J. A. BEGBIE & Co., Merchants, carrying on Import and Export business. Head Office, London, opened in the year 1893. Bombay Office, established in the year 1894, situated at Sydic Buildings, Hornby Road, Bombay. Branch at Rangoon, Burma. The London Office is carried on under the direction of Mr. Begbie who, prior to commencing business there, had been for some years in India. The Bombay Office deals principally in cotton, seeds, and other produce. A general import business is also worked. The firm has correspondents and agents in the principal markets of Europe, Java, China, and Japan. It is a member of the Chamber of Commerce, Bombay.

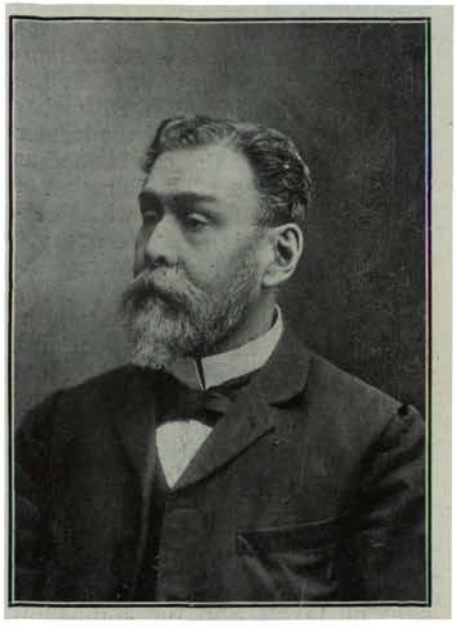
Messrs. FRAMJEE, SONS & Co., Bombay, Merchants, and Agents for the Ceylon Government, founded by the late Mr. Framjee Nusserwanjee Patel, J.P., who was born on the 24th June 1804. He received very little English education and began his business career at the early age of fifteen, and applied himself so well that he was admitted as a partner in the firm of Messrs. Frith, Bomanjee & Co, in 1827, in which he worked as a beginner. Formerly when there were no banks, the European firms in Bombay generally secured the assistance of wealthy Parsees as their bankers and brokers, but Mr. Framjee did not take up such a position, but founded his own firm, having English gentlemen as partners. Thus from 1827 to 1848 the firm continued under the name of Frith, Bomanjee and Co., and from 1848 to 1859 the same firm carried on business with new English

THE LATE Mr. F. N. PATEL.

partners under the name of Wallace & Co. In 1859 Mr. Framjee retired from business, leaving his son Mr. Dhunjibhoy to take his place in the

firm until 1862. The following year he started a new firm for his sons, Messrs. Dhunjibhoy and Sorabjee, in partnership with Mr. John Sands, and in correspondence with Messrs. Frith, Sands & Co., of London, under the name of Framjee, Sands & Co. This firm continued till 1893, when Mr. Sands retired, and the firm now continues under the name of Framjee, Sons & Co., being solely comprised of the members of Mr. Framjee's family. This firm takes an interest in the export and import business of the Port of Bombay, both with Europe and the Far East, besides being Agents to H. M.'s Government of Ceylon for very many years. As a citizen, Mr. Framjee's services commenced so far back as 1837 and, since then, he always ministered to the educational, medical and social wants of the people. In 1857 he formed the Zoroastrian Girls' School Association, of which he was President, and he earnestly watched over the welfare of these schools and continually assisted them with funds. His services were rendered to the Parsees in connection with the efforts made by them to obtain legislative enactments regulating marriage, divorce, and succession in their community; and the Parsee Law Association was founded, of which Mr. Framjee was President. In 1861 the Bombay Government appointed the Parsee Law Commission, of which the distinguished Jurist, Sir Joseph Arnold, was President, and Mr. Justice Newton, Mr. Framjee and Mr. Mody Rustomjee Khursedjee were members. The report of the Commission led to the passing of the Parsee Marriage and Divorce Act, and the Parsee Intestate and Succession Act. In 1848 Mr. Framjee was appointed a member of the Board of Education, and in 1857 was made a Justice of the Peace. He assisted several charitable and other institutions, his charities and contributions amounting to upwards of 3,00,000 Rupees, and as Lord Northbrook, late Viceroy of India, said: "The Parsees of Bombay are well represented now by the venerable Framjee Nusserwanjee, a man held in the highest honour by all classes in Bombay and respected and beloved by the poor." He died on the 21st March 1892 at the good age of 88 years.

Messrs. FRASER & Co., Landing, Shipping and Forwarding Agents, Cargo Boat and Launch Owners, No. 4, Commercial Buildings, Calcutta.



Mr. W. THURLOW.

Mr. W. T. Thurlow, sole proprietor. The firm was established in the year 1850 by Captain H. Fraser. The late Mr. George John Thurlow joined the firm as Assistant in 1858, rose to Manager and ultimately to be a partner, the business being from that time carried on under the style of Fraser & Co. Mr. G. J. Thurlow died at Greenwich in 1870. Mr. W. T. Thurlow was then admitted a partner, and on the decease of the late Mr. G. J. Thurlow's widow in 1902 bought her interest in the business and became sole proprietor. Messrs. Fraser & Co. are the oldest firm in this line in Calcutta. They carry on half the landing business of the East Indian Railway, which has been in their hands since 1852. They are also landing agents for several mills, merchants' houses, etc. Mr. W. T. Thurlow, the present proprietor, was born at Calcutta in 1845, educated at the Doveton and La Martinière Colleges. He received his first business training as Assistant Manager of the Hooghly Lighter Association, commencing in 1863. In 1866, he joined Messrs. Mackillop Stuart & Co., Merchants; in 1868, Messrs. Mackinnon, Mackenzie & Co., Merchants, and in 1870, his present firm of Messrs. Fraser & Co., on the retirement of his father, the late Mr. G. J. Thurlow. Mr. Thurlow has one son living, who joined his firm from the 1st January 1906. He was born at Ramsgate, educated at Highgate School and has had two years' experience in a London office.

Mr. J. C. GALSTAUN, Merchant, Shellac Manufacturer and Exporter of Indian Produce, Jute Presser. Office, 56-62, Radha Bazar, and No. 1, Sookea's Lane. Residence, 11, Camac Street. Mr. Galstaun started business in Calcutta in the year 1886, dealing principally in the manufacture of shellac and the export of seeds. He was born at Julpha in Persia in the year 1861, whence he came to Calcutta, and was educated at the Armenian College and St. Xavier's College, Calcutta. His first commercial experience was gained in the service of the firm of Messrs. M. J. Galstaun & Co., Merchants of Calcutta, with whom he remained till the year 1885. In that year Mr. Galstaun left India to visit the Straits Settlements and Java on a business tour. While on his travels he established business relations

Mr. J. C. GALSTAUN.

with merchants in those countries for the export from India of shellac and Indian produce generally. Returning to India, he established

a factory for the manufacture of shellac, which he has developed into one of the largest factories devoted to the purpose in India. The factory is situated at Ultadanga near Calcutta and employs about 400 hands daily. Mr. Galstaun has branches in the North-West Provinces and at Nagpore and Agents in the Straits and in London.

Messrs. GILLANDERS, ARBUTHNOT & Co., Merchants, Bankers and Commission Agents, rank as one of the oldest firms in Calcutta in point of time, and as one of the leading houses connected with the trade of the Capital of India. Established as far back as the year 1820 by Mr. F. M. Gillanders in offices in Lyons Range, he was joined in business in 1824 by Mr. John Ogilvy, and the firm was then styled Gillanders, Ogilvy & Co. For nine years the partnership continued until 1833 when, on the retirement of Mr. Ogilvy, Captain Arbuthnot joined the firm. In the same year the title of the firm was changed to its present one, the name of Arbuthnot then replacing that of Ogilvy in the designation of the firm. In 1842 Mr. Murray Gladstone came out to India to assist in the management of the business.

In 1844 Mr. D. McKinlay came out and joined the firm, and on the formation of the Calcutta Chamber of Commerce, he was one of that body's first Presidents. The house of Gladstone is very strongly identified with this firm, as many members of the family, which gave to England one of the greatest statesmen of modern times, have been and are still connected with the fortunes of Messrs. Gillanders, Arbuthnot & Co. Amongst them are the names of Mr. S. S. Gladstone, at one time Governor of the Bank of England, and a Director of the P. & O. Company, and the East Indian Railway Company; Mr. Robert Gladstone, Chairman of the Mersey Dock Board; Mr. H. N. Gladstone, a son of the late Right Hon'ble William Ewart Gladstone, thrice Prime Minister of England; Mr. W. B. Gladstone, Mr. A. S. Gladstone, and Mr. J. S. Gladstone, the last four named being still Partners in this historic firm, though residing at Home. In Calcutta the business is under the management of Mr. Henry Bateson, the Resident Partner, who has been connected with the firm since 1883, and is a Director of the Bank of Bengal, the Bengal Coal Company, and the Darjeeling-Himalayan Railway, and for some years a Member of the Committee of the Bengal Chamber of Commerce.

Messrs. Gillanders, Arbuthnot are the Managing Agents for the Hooghly Mills Company, Limited, one of the largest Jute Mills in Bengal, having a capital of over thirty-seven lakhs of Rupees, and containing 905 looms. They are also Agents for the Société Générale Industrielle de Chandernagore and the timber business of H. Dear & Co., and several other Companies. Railway extension in India has received considerable impetus at their hands as they are Managing Agents for the Hurdwar-Dehra Branch Railway Company, Limited, and the Darjeeling-Himalayan Railway Company, Limited, and Agents for the Southern Punjab Railway Company, Limited. They are Agents for H. M.'s Ceylon Government and the British North Borneo Company, Limited, and are largely interested in Tea, Indigo and other indigenous Industries. Insurance agencies form a large department in the firm's operations, as they are Agents for eight of the largest offices carrying on this business in the East, while as Bankers and Financiers they successfully floated the Bettiah Raj Sterling Loan and other important undertakings. Messrs. Gillanders, Arbuthnot & Company's name is always in the front rank of those who desire to place Indian commerce on a level with that of other countries, and any undertaking promising to advance the material progress of the country, with which they have been so long and honourably connected, receives liberal support from them.

Messrs. GLADSTONE, WYLLIE & Co., Merchants of Calcutta, were established in Calcutta in or about the year 1844, the firm originally being Messrs. Gladstone & Co., of Liverpool, England, who owned large and valuable sugar estates both in the West and East Indies. For many years the firm's Estates in India were managed by Messrs. Gillanders, Arbuthnot & Co., as Agents for the Liverpool firm, but in 1844 the firm of Gladstone, Wyllie & Co. was formed to more especially undertake the management of these estates, whilst also carrying on the business of General Merchants. The late Sir John Gladstone, father of the late Right Hon'ble William Ewart Gladstone, Premier of England, was a member of this old established firm, and the present partners are Messrs. George Evans Gordon, J. G. Dickson, J. R. Bertram and A. J. Dent. During the sixty years this firm has been in existence, its business has steadily grown and increased, until now it holds a leading position amongst the senior commercial houses of Calcutta, whilst its operations are wide and far-spreading. As Agents for Lloyds, the City Line of Steamships, and the Northern Pacific Steamship Company, the firm is largely engaged in the shipping business of the Port of Calcutta, and as Managing Agents for the Sutna Stone and Lime Co., Ld., they are also interested in the up-country trade. The firm are Agents for the Liverpool Underwriters' Association, the London Salvage Association, and the National Board of Marine Underwriters, New York, and these with the Northern Assurance Company, Fire & Life, the Standard Marine Insurance Company, the Aachen & Munich Fire Insurance Company, with many others, testify to the large share the firm has in the Insurance business of Calcutta.

Mr. J. G. DICKSON, the Managing Partner, has been connected with the firm for nearly forty years, having joined in 1866, and is an old resident in Calcutta. He is a Steward of the Calcutta Turf Club and takes a great interest in other sports also, being President of the Tollygunge Club and the Calcutta Football Club.

Messrs. H. GLUCK & Co., Exporters of hides, skins and leather, Calcutta and London. Attracted by the business to be done with this country in the above commodities, Mr. H. Gluck founded this house in London a quarter of a century ago. This business was established in 1877. The partners at present are—Mr. H. E. Gluck, Mr. S. T. Huntley and Hon. W. T. O'Brien. At first the business was carried out by the aid of local Agents, but the growth of shipments in volume and value necessitated the opening of an Indian

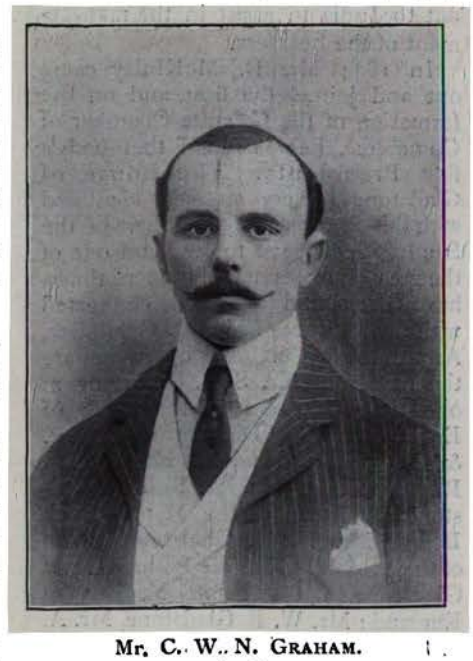
branch of the London House. This was first located at Cawnpore, and started in the year 1895. It was subsequently found more convenient to have the Indian Headquarters at Calcutta, and the present Calcutta House was therefore opened in 1904, the Cawnpore Branch being closed. A Shipping House on the Western side of India being also found advisable, owing to the amount of business which could be more conveniently transacted through that channel, a branch was at about the same time opened at Karachi. Messrs. Gluck & Co. do an extensive business throughout Europe, America, South Africa, Egypt and China, in hides and skins. In Egypt they have another Branch House. The firm sell direct to tanners and dealers throughout the world. Mr. E. A. Wild, their local Manager, has been identified with this class of business for 14 years. Commencing his business career at Leeds, England, he came to India in 1893 and gained his local experience first with Messrs. Cohn Bros. & Fuchs and subsequently, before taking up his present position, with Messrs. Gillanders, Arbuthnot & Co.

Messrs. J. GOW & Co., Calcutta, Exporters of Jute Fabrics. This business was founded in 1894 by Mr. James Gow of Scotland. In 1901, Mr. J. D. Guise, the junior partner, was taken into the firm. The same year Mr. Gow was invalided home, and since then the business has been managed by Mr. Guise, who came to India in 1896, and previous to joining his present firm was with Messrs. Kilburn & Co., and subsequently with Messrs. Gillanders, Arbuthnot & Co. Although a young firm, comparatively speaking, the business handled by Messrs. Gow & Co. is large and steadily increasing, attention being solely confined to the exportation of Jute fabrics.

The GOUREPORE Co., Ld., Jute Manufacturers, Calcutta, Messrs. Barry & Co., Secretaries and Agents. This Company was founded in the year 1862 to carry on the business of Manufacturers of Jute fabrics. Their works have steadily grown in importance with the growth of business transacted by them, till now the Mills situated on the River Hooghly in the vicinity of Calcutta cover an area of 50 acres. Jute manufacture is one of the most important of the local industries, and the Gourepore Company is second to none of the local concerns engaged in this manufacture. The output of their mills is already on a very large scale and at the beginning of last year approximated 100 tons per diem; the product of 20,844 spindles and 1,255 looms owned by the Company. The mills give employment to about 8,000 native operators, comprising 5,500 men, 1,000 women and 1,500 children, who are supervised by a staff of 32 Europeans. The Company has done much to render the lives of its employés comfortable. A large number of the operatives are provided with house room on the Company's land adjoining the mills, where their dwellings built on approved principles form a town of their own. These dwellings are built in rows, scrupulous attention being paid to sanitation. A supply of filtered water has been laid on at the Company's expense and the dwelling-houses and town form a striking contrast to the surroundings of the native villages whence the operatives are drawn. The Company also provide a Medical Officer to attend to the people. A large market established on the mill property draws food and other supplies. The produce of the mills finds a large market in America where it has attained a high reputation. The paid up capital of the Gourepore Company represents Rs. 38,50,000, or £257,000 sterling.

Messrs. BARRY & Co., Merchants and Agents, Calcutta and London. Established in the year 1876 by Dr. John Boyle Barry, Messrs. James Hewitt Barry and A. P. Sandeman joined later as partners. Dr. Barry remained associated with the firm till his death in 1881. In 1884, Mr. Sandeman retired, and Mr. Patrick Playfair (now Sir Patrick Playfair) took his place. In 1902, Mr. James Hewitt Barry retired, and the following year Messrs. Joseph Westerhout Baker and Clifford Duncan Matthews, who had managed departments of the business, were admitted into the partnership. Messrs. Barry & Co. are largely interested in tea, being Agents for important tea estates situated in the best districts of India, in the Dooars and Assam. They are Agents for the London and Lancashire Fire Insurance Co., the City of Glasgow Life Assurance Co., the General Marine Insurance Co. of Dresden, and the North Queensland Insurance Co., and Secretaries and Agents of the Gourepore Company, Ltd., one of the largest Jute and Linseed Oil Mills in India. Sir Patrick Playfair is a prominent member of the mercantile community, having represented the Bengal Chamber of Commerce in the Legislative Council of Bengal and in the Supreme Legislative Council of the Governor-General of India. He has been President of the Bengal Chamber of Commerce and Sheriff of Calcutta. He was knighted and made a Companion of the Order of the Indian Empire in recognition of his services to the Government and the Commercial community.

Mr. CECIL WILLIAM NOBLE GRAHAM, a member of the firm of Messrs. Graham & Company,



Mr. C. W. N. GRAHAM.

Calcutta, was born in the year 1872 in Renfrewshire, Scotland, and educated at Eton College, afterwards proceeding to Trinity College, Oxford. Deciding upon a

commercial career, he became associated with the firm of Messrs. James Graham & Company of Glasgow in 1893, and in 1897 came out to Calcutta to his present firm, in which he was admitted a Partner in 1899. Mr. C. W. N. Graham is a Member of the Committee of the Chamber of Commerce and has represented his firm thereon since 1904.

Mr. CHARLES MAY GREGORY, Engineer and Contractor, Mussoorie. Born at Umballa, Punjab, India, on 9th February, 1868. Educated at Bombay under the late Reverend Dr. Evans, D.D., fourth son of the late Mr. M. Gregory of Manchester, U. K. Mr. Gregory entered active life in the year 1887, when he took

Mr. C. M. Gregory.

up a contract for the construction of six miles on the Bengal-Nagpur Railway. This contract was completed by the partners in less than a year, and they then received from the Company the contract for the construction of the bridge consisting of nine spans of 150 feet and one span of 60 feet over the Brahmini River. This bridge was built under great difficulties, the contractors having to import all their labour, skilled and unskilled, the local population consisting of a few wild tribes. It was finished to the satisfaction of the Company, the then Agent, Mr. T. R. Wynne, C.I.E., testifying to the satisfactory and expeditious manner in which the work had been performed. Mr. Gregory dissolved partnership with his brother on the completion of this contract. He continued Railway contracting on his own account, accepting contracts from the Bengal-Nagpur Railway for ballast and girder erection. His next contracts were with the East Coast Railway, on which line he built the Vamsadhara Bridge (Vamsadhara) and five miles of minor bridges and earthwork. Mr. Gregory was the only contractor employed in the girder erection of the last 250 miles of the East Coast Railway. In addition to this he had the contract for the last 6½ miles of the Puri Branch, including four bridges. His next contract was for the erection of girders on the Bezwada-Madras Railway, over a length of 254 miles. In the course of this contract he erected 13 spans of 60 feet over the Gundlakhama River, which had to be rushed against time, notwithstanding serious floods. From 1898 to 1901 Mr. Gregory had the contract for one-half of the Ganges Bridge on the Ghaziabad-Moradabad Railway. For this work which consisted of well sinking, masonry, girder erection, training works, approaches, etc. Mr. Johns, the Engineer-in-Chief, highly commended Mr. Gregory as the best Railway Engineering Contractor he had had to deal with. In 1902 Mr. Gregory had the contract for the Kabul River Bridge at Nowshera on the Nowshera-Dargai Branch of the North-Western Railway. For the manner in which he performed this work he received the commendation of the Engineer-in-Chief, Mr. F. R. Bagley. Mr. Gregory has just completed the construction of the Chenab Bridge which consists of eleven spans of 200 feet with extensive training works, and has received the following testimonial from Mr. E. Deuchars, Engineer-in-Chief, for Construction, N.-W. Railway. "I have much pleasure in testifying to the excellent work you did on the Chenab Bridge, Jech-Doab Railway. Had the girders arrived in time from England, the building of this bridge would have established a record of bridge building in India. Your arrangements for the carrying out of the work were always good and the work was done with expedition and at reasonable rates." Mr. Gregory is now employed in constructing two large buildings in Mussoorie, one to be the Hotel Cecil and the other for a row of English shops. These are on his own account.

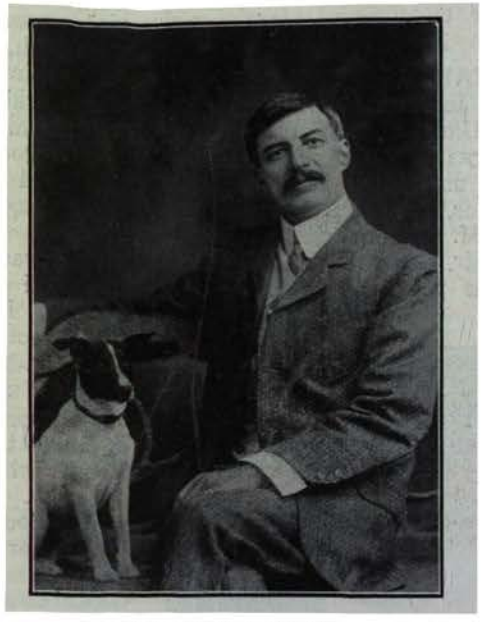
Mr. GASPER IVES MORGAN GREGORY, B.A., Bar.-at-law, Jute Broker, and Jute Merchant, No. 4, Commericial Buildings, Calcutta. Mr. Gregory was originally educated for the law. He was born in Calcutta in the year 1867, and proceeding home received his education at Eton College, subsequently entering at Trinity Hall, Cambridge, where in the year 1888 he took his

Mr. G. I. M. Gregory.

degree of Bachelor of Arts. He read for the Bar and was called as a member of the Inner Temple on the 27th January 1890. Mr. Gregory came to Calcutta and practised in the local Courts for a time, but the profession proved distasteful to him and he discarded the long robe for commercial pursuits. He accordingly went into the Jute trade on his own account in the year 1890, and is at the present day still carrying on the same business. He is the eldest son of Mr. C. Gregory, Pleader of the High Court of Calcutta, who has lately retired from his profession.

MESSRS. FITCH & CO., LD., MUSSOORIE.

Mr. C. F. FITCH.

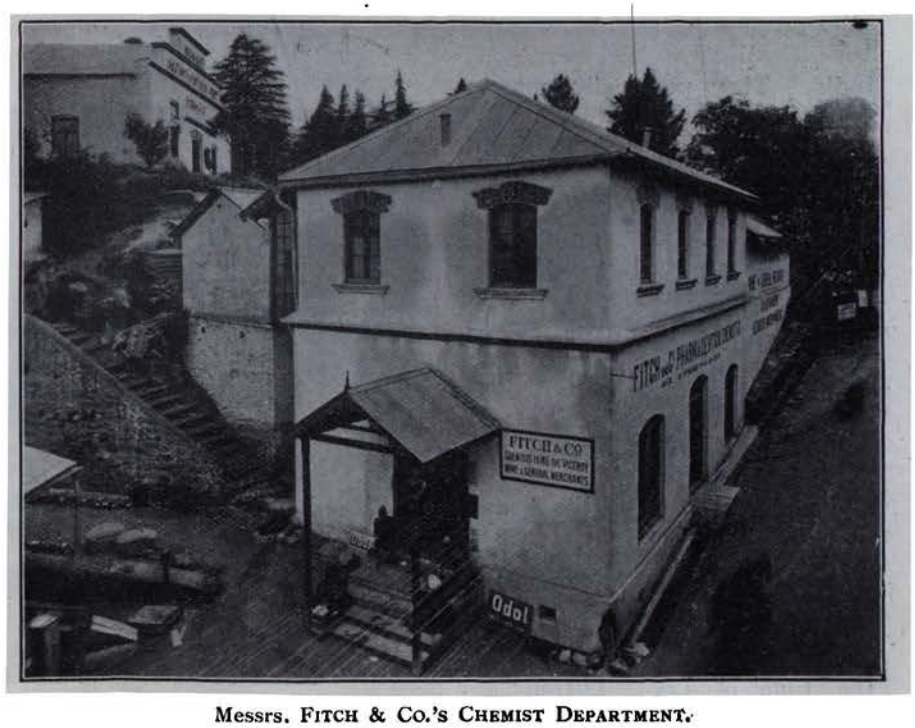


Mr. S. V. JOLLIFFE.

Messrs. FITCH & CO., Ld., General Merchants, Auctioneers, Chemists, Wine and Spirit Merchants, Mussoorie, carry on a business in the providing of the necessities and luxuries of life, which for variety and extent is unequalled in Northern India. In fact they well deserve the designation of the "Local Whiteley's." In Mussoorie the firm holds an undisputed position as the foremost trading firm with a connection which extends universally among residents and visitors. Their position in the station is the outcome of the many years that the Company in its present and former form has carried on business. It began with the early days of Mussoorie in the year 1862 and has kept pace with what has become now the most important hill station in Northern India, growing with the growth of Mussoorie. The Company's dealings range over a wide variety of business. Amongst the many departments are the following:—Wines and Spirits, English, Continental and American Canned Stores of all descriptions, Hardware and Ironmongery, Electro-plated and Silver Goods, Cigars, Cigarettes, Pipes, Tobaccos, Fancy Goods of every kind. They are well known as the original sole agents in India for Nestor Gianaclis Cigarettes, and also at the present time for the famous Evangele Christou's Egyptian Cigarettes. The Company also carries on a large business as Dispensing Chemists, and supply the station with Aerated Waters from their Aerated Water Factory, in which two large machines of the most modern pattern are constantly at work. Another Department is devoted to House Furnishing and they also possess a large clientele as Valuers and Auctioneers. The enterprise of the Directors puts the firm ahead in the matter of novelties of all kinds of which they are large importers from England, the Continent, America and Japan. Being in a favourable financial position they are able to buy in the cheapest market for cash of which circumstances their constituents reap the full advantage in moderate prices based on small profits. They are exporters of Indian indigenous Drugs to some of the largest Manufacturing Chemists in England. The enterprise of Fitch & Co. caused them to be first in the field in the introduction of Acetylene Gas to Mussoorie when that illuminant first came into notice. They are now equally active with electricity and are making arrangements to have all their buildings electrically lighted. The origin of Fitch & Co. as stated dates back to 1862 when it was established by Mr. J. L. Lyell under the style of Lyell & Co. Under this designation it was carried on for some twenty years till in the year 1882 the whole going concern was taken over by Mr. T. W. Fitch who, upon acquiring the business, continued it under the

style of Fitch & Co. Mr. T. W. Fitch remained the sole managing proprietor of the firm till 1888 when Mr. C. F. Fitch who had joined the firm in 1885 became a partner. Mr. T. W. Fitch dying in 1899, Mr. C. F. Fitch conducted the affairs of the firm as managing proprietor until 1895 when he took Mr. S. V. Jolliffe into partnership. For the next seven years Messrs. Fitch and Jolliffe carried on the business jointly, but in the year 1902 the advantages of converting the business into a Limited Liability Company strongly presented themselves and the Company as at present constituted came into existence with Messrs. Fitch and Jolliffe as Directors. Since then the financial side as well as every other aspect of the business has flourished exceedingly as is testified by the fact that a dividend of ten per cent. has been paid yearly since the Company's formation. The Directors of the Company have been very active in extending the scope and conveniences of the business. Since the formation of the Company they have purchased a considerable property adjoining their old premises and have just completed new Show Rooms and Store and Wine Godown, besides buildings for the accommodation of their numerous native staff. They have also opened a Branch at Dehra Dun which on a smaller scale contains as varied a stock as their Mussoorie establishment. The equipment of the offices is well up to date. All the Departments have telephonic communication with the Directors' Offices, and the latter are also connected by telephone with all the principal places of business and Government Offices in the station. Each Department is under the supervision of an European Assistant, with Mr. C. Fitch as General Manager, and Mr. S. V. Jolliffe in charge of the Financial Department. Both the Directors had special training for their respective duties, and before coming to India having obtained valuable experience with leading business Houses in London, Manchester and Bradford. Mr. Fitch and Mr. Jolliffe hail from the West of England, were educated in Plymouth, are now both 46 years of age, and have every prospect before they reach the meridian of life of

Messrs. FITCH & CO.'S STORE.

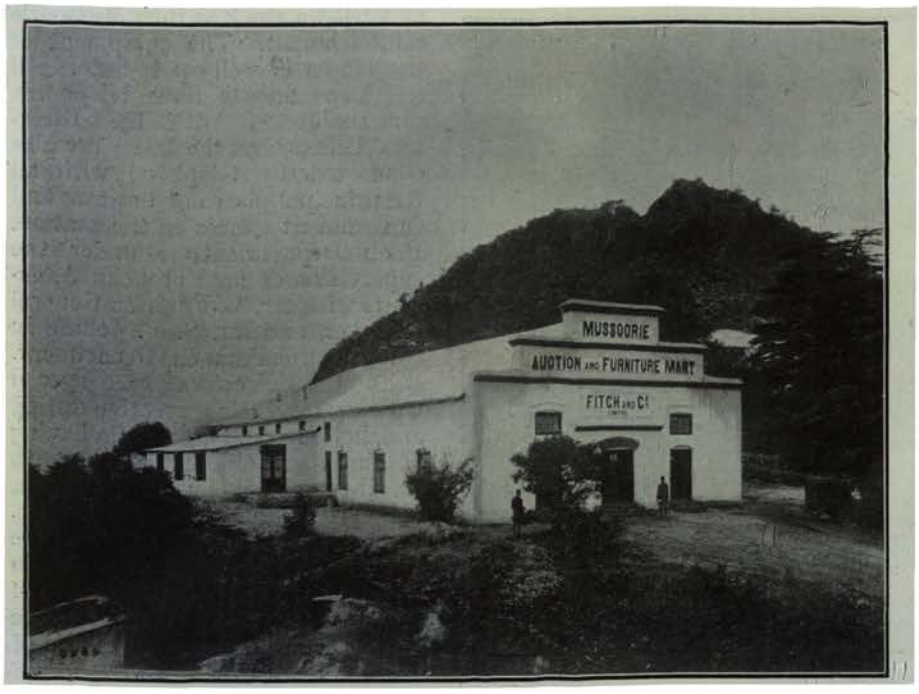


Messrs. FITCH & CO.'S CHEMIST DEPARTMENT.

seeing the business of Fitch & Co., Limited, become by far the largest and most important in Northern India. They personally superintend every detail of the daily work, so as to keep thoroughly in touch with the pulse of the business, thus ensuring a very satisfactory working both from a Shareholder's point of view, as well as from that of their numerous constituents. The result of this directly personal control is known by the yearly increasing volume of the Company's turnover, and is emphasized by the fact that none of their shares are at present obtainable (even at a premium) on the market.

The Company have the honour of an appointment as Chemists and General Merchants to H. E. The Earl of Minto, Viceroy and Governor-General of India, and have held similar appointments from every successive Viceroy from the time of Lord Lytton and also from H. R. H. the Duke of Connaught, when H. R. H. was in command of the Meerut Division.

The London Agents of the Company are Messrs. Ledger Sons & Co.; Agents for New York are Messrs. Muller Maclean & Co., and for Paris, Messrs. Constant Mertens & Co. The telegraphic address of the Company is "Fitch," and their Telegraphic Code is A. B. C. 5.



Messrs. FITCH & CO.'S AUCTION AND FURNITURE MART.

FITCH & CO.'S SHOW ROOM.

Mr. GEORGE MESROPE GREGORY, A.M.INST.C.E., Engineer and Contractor, No. 1, Lansdowne Road, Calcutta. Mr. Gregory was born in Ispahan, Persia, and was educated at the Armenian College,

Mr. G. M. GREGORY.

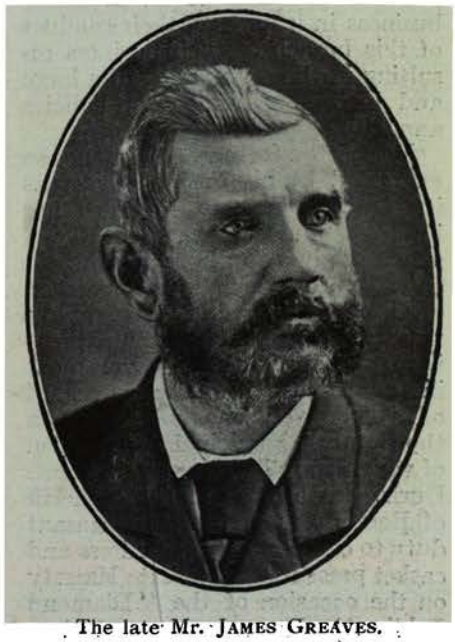
Calcutta. He studied Engineering at the Seebpore Engineering College and passed out of that institution in the year 1889. In 1890 he was appointed to the Public Works Department of the Government of Perak in the Malay Peninsula, and remained in that service till 1897 when he visited England on leave, and was elected in London an Associate Member of the Institution of Civil Engineers in 1899. On his return from England he was compelled by ill health to resign his appointment with the Perak Government and finally started business in Calcutta on his own account as Engineer and Contractor in 1901.

Mr. WALTER THOMAS GRICE, *Major, 1st Batt., Calcutta Vol. Rifles*, a partner of the firm of Smith, Stanistreet & Company, Manufacturing and Pharmaceutical Chemists, was born at Yardley, near Birmingham, England, in the year 1868. His father was William Grice, an iron founder and engineer. He was educated at the Solihull Grammar School, and then apprenticed to Philip Harris & Company, Ld., Chemists of Birmingham, with whom he remained for six years. In 1890 he came to Calcutta as Analyst for Smith, Stanistreet & Company, and in February 1900 became joint proprietor of the business with Mr. Charles F. Baker. He is a Fellow of the Chemical Society of England, to which he was elected in 1893, and a Member of the Pharmaceutical Society of Great Britain. Since his arrival in Calcutta, he has been identified with "F" Company, 1/C. V. R., joining in 1890 and successively promoted Lance-Corporal in 1892, Corporal in 1893, Lieutenant in 1895, Captain 1900, and attaining his rank of Major in 1903. In 1898 he was made a Mason in "Lodge Humility with Fortitude," 229 E. C., of which he became Master in 1904. Mr. Grice was elected Master of the Calcutta Trades Association for the year 1905 and filled this important position with dignity and efficiency.

Messrs. GREAVES, COTTON & Co., Mill Agents, Machinery Importers, etc., Bombay. There are businesses which, while they are admirably managed and abundantly successful, have no great influence in the world to which they belong; others there are whose work, besides accomplishing its own immediate ends, helps to mould the conditions under which a whole industry

The late Sir GEORGE COTTON.

exists. Of this latter class the house of Greaves, Cotton & Co. is a good Indian example. Forty-seven years ago Mr. James Greaves opened a ginning press in the centre of the Gujarat cotton growing district, in which venture he was soon joined by Mr. Cotton, the partners trading as Greaves, Cotton & Co. The up-



The late Mr. JAMES GREAVES.

country ginning and pressing is a business which has itself greatly modified the Bombay cotton trade, but it did not afford sufficient outlet for the energies of the new firm, who in a very few years transferred their sphere of activities to Bombay. Here they gained the confidence of local capitalists, and started the flotation of mill companies, to each of which they became managing agents. One mill after another came under their control, the Empress, the Leopold, the Connaught, the Imperial, the Howard and Bullough, and the James Greaves, and the firm soon became a power in the land, and their success gave a great impetus to enterprise in the same direction. The operations of Messrs. Greaves, Cotton & Co. cover the whole field of India's cotton trade. Not only are there the enormous productions of their own spinning and weaving concerns to dispose of in the local and Far Eastern markets, but they are also importers of Manchester piece-goods and of gray goods; their dealings with the native wholesale cloth merchants being carried on a very large scale. As importers of mill and other heavy machinery, the firm

has for many years done a large trade in Bombay and the East generally. They are agents for several of the largest engineering firms in Great Britain, and also import a good deal of electric and other plant. They also do an extensive business in insurance, their conduct of this branch of their business resulting in the registration of a large and increasing number of policies annually.

Mr. Cotton fortunately was not so engrossed by his business, vast as it was, as to have no time for other interests and service. He was a generous giver to any philanthropic enterprise of which he was satisfied of the value, and his gifts were never ostentatious. He took a great interest in local self-government in India and won the warm regard of his fellow-citizens by his work on the Bombay Municipal Corporation of which body he became President. During his term of office as Sheriff of Bombay, it became his pleasant duty to carry home the address and casket presented to her late Majesty on the occasion of the "Diamond Jubilee." He was awarded a knighthood at the distribution of the Jubilee honours. It was not long after this that Sir George Cotton retired from India, but his last years in Bombay were marked by a policy with regard to the treatment of mill hands during the crisis brought about by plague and American "Bull" speculators, which not only benefited thousands of his own workers, but also induced other mill agents to treat their employees in more generous fashion. By the resultant keeping together of the mill hands the industry has since been able to reap the full benefit of a return of better times. On the retirement of Sir George Cotton, Mr. John R. Greaves assumed control of the business, assisted by the other partners, Messrs. Herbert R. Greaves, Arthur Leslie, and Septimus E. Greaves. The firm has had the great misfortune to lose its two senior partners during the last two years, Mr. J. R. Greaves dying on his way home, after a prolonged illness. The present manager is Mr. H. R. Greaves. The firm's Manchester house is known as James Greaves & Co., and there are numerous branches throughout India.

Mr. ADOLPHE GROSSMANN is the founder of the firm of Grossmann & Co., 2, Fairlie Place, Calcutta.

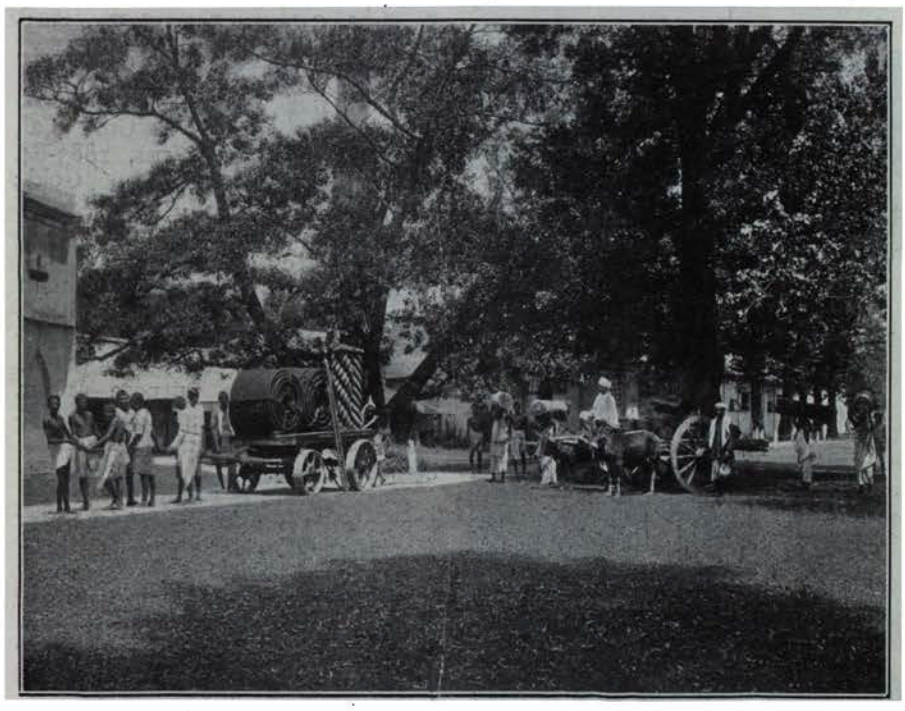
After matriculating at the Calcutta University he served his apprenticeship to one of the local mercantile

Mr. A. GROSSMANN.

firms, and in 1875 started business on his own account as a Broker in jute manufactures until 1880, in which year he established the firm of Grossmann & Co. in the export trade of jute fabrics. Whilst on a visit to Europe in 1880, he had the honour and good fortune of becoming acquainted with the late Chevalier Julius de Goldschmidt, the confidential Manager of Messrs. S. M. de Rothschild's of Vienna, under whose patronage Mr. Grossmann succeeded in establishing himself. The business of the firm has gradually increased in prosperity and now occupies one of the foremost places as exporters of jute fabrics and Hessian cloth (burlaps) to all parts of the globe. The firm takes the first place amongst the shippers to Egypt, having exported last year about one-third of the total export trade in grain, sugar and cotton bags and also a leading place in the exports of burlaps to North and South America; considerable export trade is also done with the United Kingdom, Australia, South Africa, China, Japan, the Straits Settlements, Siam, Java, Burma, etc. The other partners are Mr. William Grossmann and Mr. James Grossmann, whose experience of jute fabrics extends for nearly a quarter of a century, and who are also active members of the firm. Mr. Adolphe Grossmann was last in Europe in 1901 and 1902, in which latter year Mr. William Grossmann visited the United States, whilst Mr. James Grossmann travelled for a period in Australia and New Zealand, extending the firm's business and returning in 1905. Mr. Adolphe Grossmann, although in business about 28 years, is still a comparatively young man and has had a remarkable and successful business career. He is one of the able representatives of his house and continues to retain an active and personal interest in his firm.

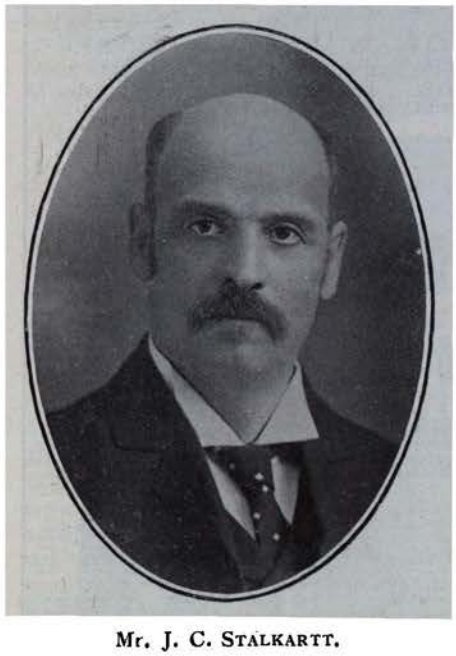
Mr. ANDREW STEWART HANNAH, Manager, Messrs. Harton & Company, Rope and Paulin Manufacturers, Calcutta, was born in the year 1864 at Manchester, England, and educated at the Vermont College, London. Mr. Hannah elected to follow a sea-faring life, and in 1882 was apprenticed to Messrs. Geo. Smith & Sons' line of sailing ships. On completing his indentures with them in 1888, he joined the B. I. S. N. Company's line as fourth officer, and passing through the different grades in due course, became in 1897 a commander in this Company's fleet, his first command being the S.S. *Kerbela*. During the continuation of his service with this Company he held the command of several of their steamships, and during the South African Campaign was employed on transport duties, being on two occations chief officer of steamers taking troops and stores to the Cape, the tent which was presented by the people of India to Earl Roberts being committed to his care for transportation to South Africa. Captain Hannah also took on the guns saved from the wreck of the *Warren Hastings* off Mauritius. For his services Captain Hannah received from the British Government the transport medal. Retiring from the sea, after twenty years afloat, he undertook, in 1902, the Managership of Messrs. W. H. Harton & Co.'s business, and has ably filled that appointment from that date. Messrs. W. H. Harton & Company are a firm of very old standing, being the oldest rope manufacturers in India, their rope-walk at Ghoosery being historic.

Messrs. W. H. HARTON & CO., Merchants and Rope Manufacturers, established rope-makers in India and were in existence in the year



No. 1. THE WORKS AT GHUSRI.

30, Strand Road, Calcutta. Works, Ghusri. Manufacturers of Ropes of Coir, Manilla, Hemp and Steel



Mr. J. C. STALKARTT.

Wire, also Wagon Covers, Paulins, etc. This firm are the oldest 1780, as proved by a notice in Hickey's Gazette, but under another name. Mr. W. H. Harton took over the business at the end of the eighteenth century and gave it his name, under which the firm still continues after a period of 116 years. The name of Stalkartt came into the business in the year 1812, when Mr. Hugh William Stalkartt joined the firm of Harton & Co. Mr. H. W. Stalkartt was the son of Marmaduke Stalkartt who was Naval Architect to George III, and grandfather of the present proprietor. The business was continued by the sons of H. W. Stalkartt, William and John. The former was well known in business circles in Calcutta for over half a century. He was a prominent member of the Agri-Horticultural Society and a Municipal Commissioner for Howrah. Mr. John Stalkartt, himself a landholder, publicly championed the cause of the Bengal ryots under the Permanent Settlement of 1793. He was one of the pioneers of the Indian Tea Industry and among the first planters in the Darjeeling district. The business of Messrs. Harton & Co. is now carried on by Mr. John C. Stalkartt, eldest son of the late Mr. John Stalkartt. He was educated at Sutton Valence, Kent, and joined the firm as Assistant in 1875 when he came out from England, and has received a thorough training in the various departments of the Works. Mr. John C. Stalkartt is also a Darjeeling Tea Planter, and as his father before him was one of the pioneers of black tea, Mr. Stalkartt has been amongst the first to investigate the new industry of green tea. His green tea from Kolbong, Darjeeling, headed the list in India and Ceylon and won the silver medal at St. Louis Exhibition, U.S.A. His black teas from the Oaks Tea Estate won the

No. 2. COIR HAWSER 48 INS. IN CIR. AND 6-INCH STEEL WIRE HAWSER SHOWING THEIR PROPORTIONS TO THE WORKS MANAGER STANDING ALONGSIDE.

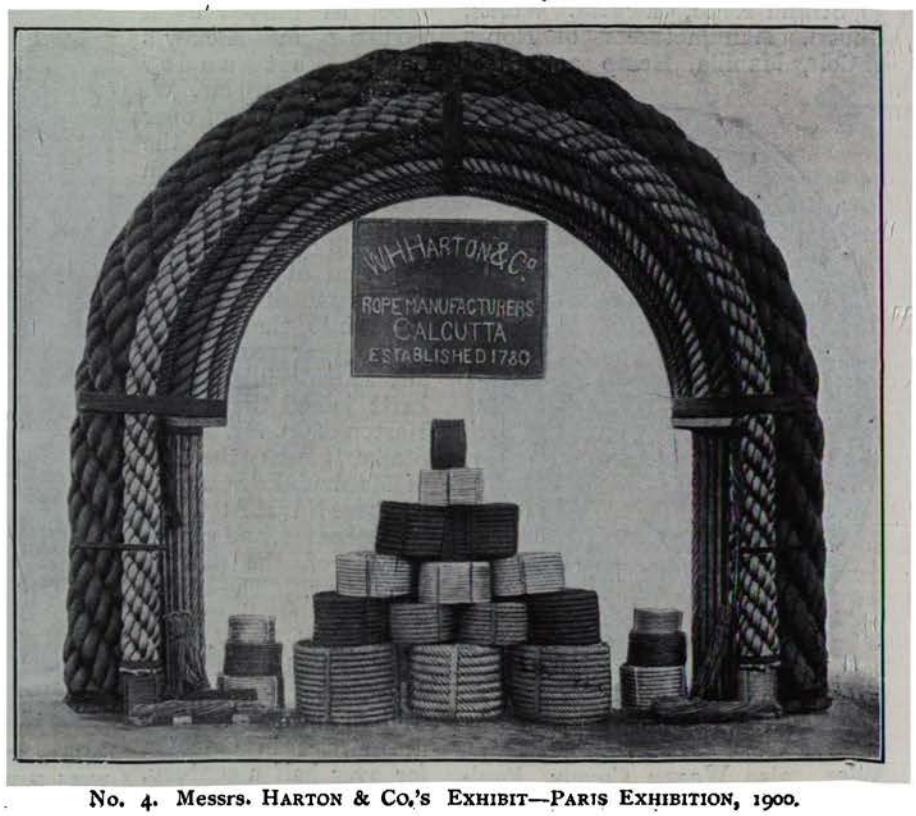
award at Chicago and the bronze medal at St. Louis, U.S.A.

The photos here represent (No. 1) the works at Ghusri, a dray with two coils of 6-inch coir rope, a piece of a coir hawser, 48 inches in circumference, ditto of a Manilla hawser, 26-inch circumference, and a 6-inch circumference steel wire hawser, a cart with paulins in front of a building now used as a godown, but which tradition says was a church in the time of the Danish settlement. An old India-rubber tree, Ficus Elastica, over 100 years old, is in the back-ground. (No. 2), a length of coir hawser 48 inches in circumference, shows its proportionate thickness to the man standing alongside; (No. 3), the interior of the Spinning Flat; (No. 4) is the exhibit that won the medal at the Paris Exhibition in 1900. The manufactures of Messrs. Harton & Co. have always been held in high estimation, and hold a leading position, being unsurpassed in strength and quality. Their ropes are known far and wide over the world, and appreciated everywhere. Messrs. Harton & Co. exhibited at the Exhibitions of Calcutta, London, Amsterdam and Paris, and have been awarded no less than 10 bronze, silver and gold medals at different times, with first class certificate as under—Calcutta Ex., 1882, Bronze; Calcutta Ex., 1882, Gold; Calcutta Internl. Ex., 1883-84, Gold; Calcutta Internl. Ex., 1883-84, Gold; Calcutta Internl. Ex., 1883-84, Silver; Calcutta Internl. Ex., 1883-84, Silver; Col. and Ind. Ex., London, 1886, Bronze; Cal. Internl. Ex., for Matting, 1883-84, Gold; Cal. Internl. Ex., for Ropes, 1883-84, Gold; Amsterdam, 1883, Gold; Repub. Franc., 1900, Bronze.

No. 3. The Interior of the Spinning Flat.

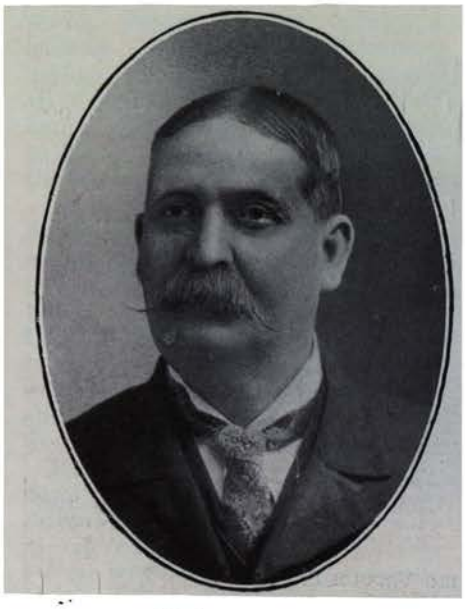
In addition to their Rope Works the firm are also manufacturers of painted paulins coated with their own specially patented composition, also railway wagon covers made from prepared canvas imported specially for this purpose from England. In the Sail Loft, Ships and Boats' Sails, Awnings, Purdahs, etc., are made.

Messrs. W. H. Harton & Co. are Sole Agents in Bengal for Suter Hartmann's well-known anticorrosive and antifouling composition for ships' bottoms, used largely by the Admiralty and leading shipping firms at home. Messrs. Suter Hartmann & Co.'s No. 2 Paint is in great demand for iron bridges, warehouses, etc., etc.



No. 4. Messrs. Harton & Co.'s Exhibit—Paris Exhibition, 1900.

Messrs. F. HARLEY & CO., Contractors. This firm is one of the oldest in the East, having been established in the year 1827, and ever since continued under its present style and designation. Their specialities are Paulins, Tarpaulins and Water-proof Bags of all descriptions, for the supply of which they have long been Contractors to the Government of India. Only the canvas they use in their manufacture is imported, and this is the best English make; the water-proofing is carried on at two factories in the suburbs of Calcutta owned by the firm, where they employ some 300 hands. This operation is effected by a special patent process



Mr. F. HARLEY.

which is in their hands. The result is a tarpaulin into the manufacture of which no tar enters and which is consequently entirely free from adhesiveness either in the sun or rain. The process is expressly adapted for use in hot climates. The paulins so produced are especially pliable and free of all spontaneous combustible matter. No Government Expedition has been arranged for many years without a supply of Messrs. F. Harley's tarpaulins, which were specially ordered for the Bhootan, Abyssinian, Lushai, Garo, Perak, Duffla, Cabul, Naga, Manipur, Chitral, Transvaal and China Expeditions, and other campaigns. The original founder of the firm was Mr. Felix Harley who was joined in the business in the year 1852 by Mr. Richard Dalrymple Lauder of Glasgow (Scotland) who first came to India as Traffic Manager of the East Indain Railway. Both these gentlemen are now deceased, and the business is now being carried on by their heirs. The specialities of the firm are widely and well-known in India, and among their customers are not only the Government of India but Railway Companies and Merchants, tea factories, etc., in fact all who have occasion for a reliable water-proof article for the protection of goods or for any other purpose.

Messrs. HASHIM ARIFF BROTHERS & Co., Merchants, Calcutta. This firm was founded in the year 1861 by the three brothers, Hashim Ariff, Cassim Ariff, and Gholam Mahommad Ariff, who were the descendants of an Arab family, long settled at Rander, formerly an independent seaport on the West Coast, but now since the rise of Surat a suburb of that city. The three brothers were part of the family of five sons of Ariff Ismail Mehtar, the sole survivor of the family at the beginning of the nineteenth century. Ariff Ismail was the captain and proprietor of a trading schooner sailing from Surat. On his death the sons went out to make their living in the world, and the three above-mentioned, coming to Calcutta, started the firm under notice. The original dealings of the firm were in general merchandise between Calcutta, Bombay, Moulmein and Rangoon, and the partners prospered from the first. It was not till 1868 that the firm developed business in silk, and opened branches at Sydabad (Murshidabad) and other places in the district of Murshidabad. Meanwhile Cassim Ariff remained in charge of the Calcutta business. The silk business prospered and was extended in 1868 to Amritsar in the Punjab, where Tasa weaving was begun with 5,000 hand looms. It being held desirable by the firm to introduce the best methods available into their silk weaving business, in 1879 Cassim Ariff undertook a journey to Europe, where he travelled all over the Continent and England for the purpose of selecting machinery of the latest pattern for the purpose of weaving silk. He returned to India in 1880, and then built the present mill buildings belonging to what is now the Bengal Silk Mill Co., Ld. Work at the mills was commenced as soon the machinery was installed, with the aid of nine European millmen, whom Cassim Ariff had brought with him from Europe. Hashim Ariff, the eldest brother, died in 1887, and Gholam Mahommad Ariff severed his connection with the firm. The goodwill of the firm, including the mills, passed into the hands of Cassim Ariff, who became the sole pro-

Mr. G. H. C. ARIFF.

prietor of the firm and the mills. The silk weaving business was converted into a limited liability company by Cassim Ariff in the year 1897, with a capital of four lakhs of rupees divided into 400 shares, which were allotted to the members of Cassim Ariff's family. Cassim Ariff and his third son, Mr. G. H. C. Ariff, who was now associated with him in business, remained as the Managing Agents of the Company. The death of Cassim Ariff in 1897 left Mr. G. H. C. Ariff the sole proprietor of the firm and the Managing Agent of the Bengal Silk Mills Co., Ld.

Messrs. HEATLY & GRESHAM, LTD. This firm had its origin in connection with a very important development on Indian railways. Mr. H. Heatly and Mr. S. T. Gresham came out to India on behalf of the Vacuum Brake Company at the time that the Government of India were deliberating the question of the introduction of Automatic brakes on Indian railways. The gentlemen named launched the limited company known by the style and title of Heatly and Gresham, Limited, in the year 1892, for the purpose of engineering business connected with railways and more especially in the equipment of the same with safety appliances.

Further, this firm represents, and holds stocks of, the principal Companies in England manufacturing railway appliances or materials for either traffic, locomotive, or carriage and wagon requirements and are therefore in a position not only to supply to all of these three departments, but are also able to give expert opinion on any subject connected therewith.

The Home Companies exclusively represented by Messrs. Heatly and Gresham are as follows :—

The Vacuum Brake Company, Ld.—This Company and its patents and manufactures are so well known that it is hardly necessary to give any further particulars.

Practically all the brake work in India has been supplied by this Company.

Very large stocks of Vacuum Brake fittings are held by Heatly and Gresham, and an expert is retained at the disposal of the Railway Companies in cases of difficulty.

Among other innovations of recent date connected with railway travelling in India, the Vacuum Brake Co., Ld., are responsible for the introduction of Passenger Communication Apparatus on Indian railways. The provision of measures whereby a passenger may, in cases of emergency, communicate with the guard or driver of the train in which he is travelling have been much appreciated wherever introduced. In India such measures of security have, for many years past, been conspicuous by their absence except on a few of the more principal lines, and it is due largely to the enterprise and efforts of the Indian representatives of the firm under review that the general adoption of similar measures of safety have been made compulsory in India.

Pintsch's Patent Lighting Co., Ld.—Everyone who has travelled in India will have enjoyed the benefits of this Company's manufactures in all gas-lit compartments.

Practically all the large Railways are equipped with this system of lighting.

Enormous stocks of fittings are held by Heatly and Gresham, they having to supply all the Railways in India.

Heatly and Gresham are now introducing into India the Pintsch's Patent Lighting Co.'s new patent system of incandescent lighting which, with only half the present consumption of gas, gives actually three times the amount of light.

In Calcutta and Bombay Messrs. Pintsch's lightships and buoys for harbour and river work may also be seen.

Saxby & Farmer, Ld.—This Company of Railway Signalling and Interlocking Engineers is known the world over, and is undoubtedly the largest and best firm in existence in this branch of Railway work.

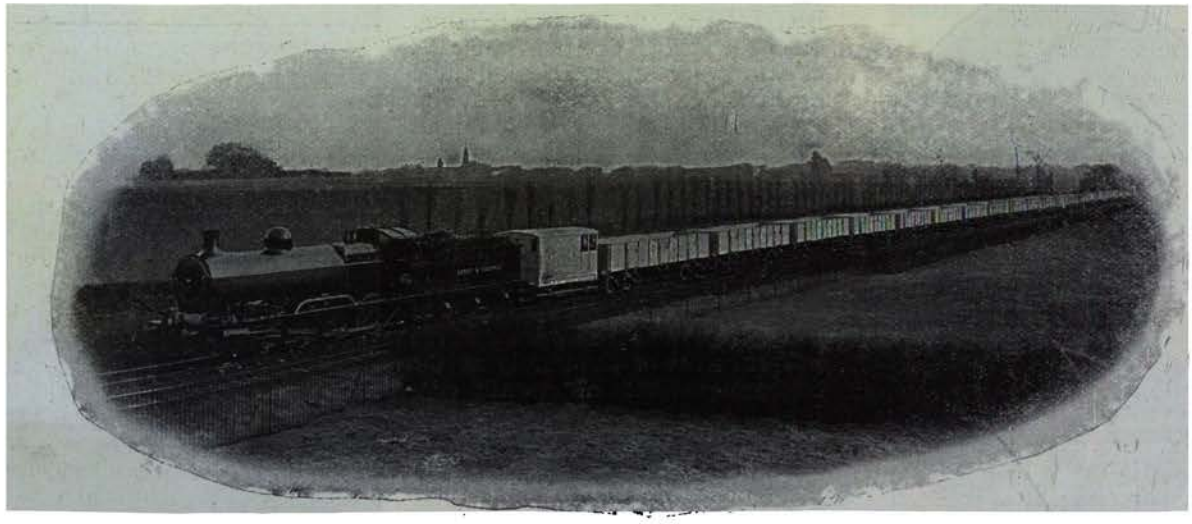
The amount of work done in India has been enormous.

Now that more modern methods have been recommended by Government, block instruments are being introduced in large quantities, and Saxby and Farmer's Neale's Instruments seem to be the only appliances that have satisfactorily stood the official tests and they have in consequence been largely installed.

Saxby & Farmer (India), Ld.—This Company, for which Heatly and Gresham are acting as Managing Agents, was formed to carry out signalling and interlocking work in India.

A staff is maintained of experienced signalling experts who are ready at any time to prepare schemes or estimates and manufacture in India and supply complete installations on the most modern plans.

The fact that requirements can now be obtained on the spot and



TRAIN OF 20-30 TON BOGIE WAGONS FITTED WITH RAPID ACTING VACUUM BRAKE.

special instructions be personally attended to will be fully appreciated by traffic and signalling officers on the Railways here.

Vickers Sons & Maxim, Ld.—The name of this firm is practically a household word. This Company has recently perfected a system of electric train lighting which is now being introduced into India by their Agents, Messrs. Heatly and Gresham, Ld.

Messrs. Vickers Sons & Maxim enjoy a world-wide reputation in connection with their more important manufactures of battleships, Maxim guns and practically every form of armament. This branch of their business needs only a passing reference. In the electrical world, Messrs. Vickers occupy a leading place. Their dynamos, motors and electrical equipment are all of the highest quality, and their name is a hall mark of excellence to electrical engineers throughout the world.

Gresham and Craven, Ld.—Among other firms of old standing whom Messrs. Heatly and Gresham, Ld., represent in India may be mentioned Messrs. Gresham & Craven, Ld., Manchester, a name familiar to every Engineer in connection with their injectors. This firm and their specialities need but a word.

Messrs. Gresham & Craven's name will be well known to all railway engineers, more especially in connection with their ejectors for use with the Vacuum Automatic Brake. These ejectors may be found on locomotives practically all over the world. Their rail-sanding apparatus for locomotives is another invention of considerable importance in the railway world.

Jessop and Appleby Brothers, Ld.—The name of the above firm is exceedingly well known in connection with every type of hoisting and lifting machinery. Among other work, this firm have just recently, through their agents, Messrs. Heatly and Gresham, Ld., supplied and erected eighteen electric hoists in the new Tea Warehouses of the Calcutta Port Commissioners.

The Vulcan Foundry, Ld., are manufacturers of locomotives and all types of rolling stock. This firm, too, enjoy a world-wide reputation among Railway Engineers.

Cochran & Co. (Annan), Ld.—In the matter of boilers, Messrs. Heatly and Gresham, Ld., devote their energies to the representation of the Cochran Boiler,—the invention and manufacture of a Scotch firm of boiler makers, whose name appears above. The firm referred to confine themselves to the manufacture of vertical multitubular boilers, and the large sale which these prime movers, in all their various adaptations have met with in all parts of the world is a proof of their efficiency.

R. Gay & Co., Ld., and Robert Ingham Clark & Co., Ld.—With regard to paints and varnishes, Messrs. Heatly and Gresham, Ld., enjoy the privilege of acting as representatives of two of the leading firms at Home of paint and varnish manufacturers. We refer to Messrs. R. Gay & Co., Ld., and Messrs. Robert Ingham Clark & Co., Ld. The manufactures of both these firms are of the very highest quality.

George Spencer Moulton & Co., Ld., for whom Heatly and Gresham, Ld., act as representatives, are manufacturers of rubber goods, and confine themselves more particularly to railway requirements. Their manufactures are of the very highest class, and their name is well known in India in Railway circles.

James Beresford & Son.—In this connection we would refer to the high class lavatory and sanitary fittings manufactured by this firm of high standing and well known throughout the Railway world.

The Heatly-Gresham Engineering Co.—Another firm of repute for whom Messrs. Heatly & Gresham, Ld., act as agents, is the Heatly-Gresham Engineering Co., Ld., whose workshops are situated at Garden City, Herts. They have lately placed upon the market a very efficient form of oil engine, known as the "Rational." This firm also devote themselves to the manufacture of motor-cars, one of which was successful in carrying off the first prize in its class during the Bengal Motor Reliability Trials. The workshops of this Company have been busily engaged for some time past in coping with a demand for motor-cars, cabs and 'buses from the London Motor Cab Co. and their motor vehicles are fast replacing the antiquated "growler" on the streets of the metropolis.

The firm whose name forms the subject of this article have recently taken up several new and important agencies among which may be named the Hulburd Engineering Co., A. B. C. Coupler, Ld., and the Armstrong Oiler Co., Ld., all of whom represent in their own respective spheres the newest departures in modern engineering.

The Hulburd Engineering Co.—This firm which is well known among Railway Companies in England, have lately introduced a very effective Boiler Cleaner, which has met with universal favour wherever introduced. Apart from this valuable invention, the firm are the patentees and manufacturers of various kinds of locomotive gauges and lubricators as also an improved type of Seamless Soft Copper Joints.

A. B. C. Coupler, Ld.—This firm have recently perfected a very effective coupling device which Messrs. Heatly and Gresham, Ld., are pioneering in this country. In England, the A. B. C. Coupler is very well known, and exhaustive tests and trials have proved its effectiveness under actual working conditions. The A. B. C. Coupler is now being introduced into India, and on all railways where tests have been made, the appliance has met with very great favour. The A. B. C. Coupler is one which has been proved to be reliable in all cases, and its use will in time come to be universal on Indian Railways.

The Armstrong Oiler Co., Ld.—Among other valuable appliances lately placed before the Indian Railway world, the Armstrong Oiler occupies a first place. This oiler successfully supersedes the antiquated methods of lubricating by means of waste, horse-hair, etc., and the ready manner in which it has been adopted by Indian Railway Companies successfully proves its utility and effectiveness.

In conclusion we may state that owing to extensive experience among Railway Companies, the name of Messrs. Heatly and Gresham, Ld., has come to be very well known among Railway Engineers, and their success is due primarily to the fact that in any speciality they take up they confine themselves to firms of the very highest repute.

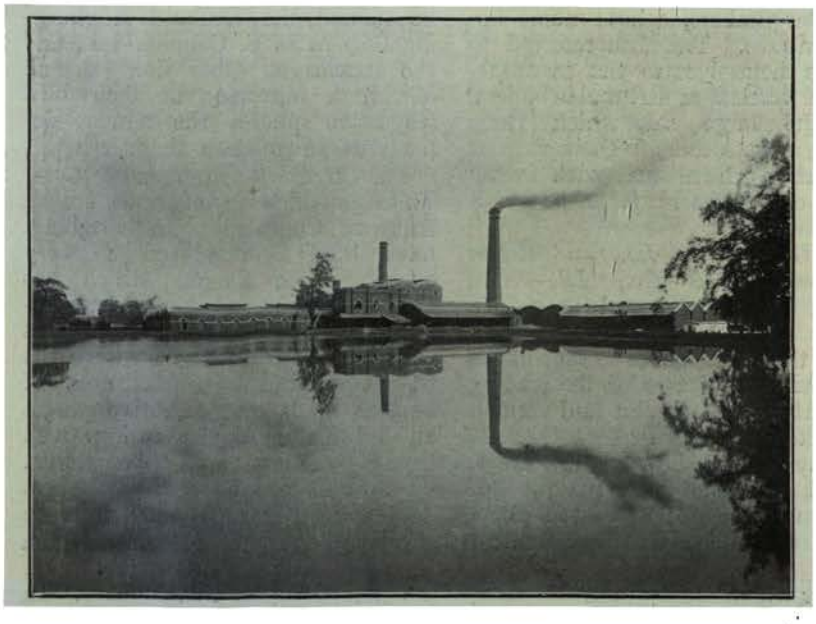
Messrs. F. W. HEILGERS & Company, 136, Canning Street, Calcutta.

This firm is amongst the oldest established houses in Calcutta. The present partners are Messrs. J. McGowan and Robert Kotthaus, Calcutta, and H. Cunningham, London.

The manufacture of paper in India is an industry in which Messrs. F. W. Heilgers & Co. hold the leading position. The Titaghur Paper Mills Company, Limited, of which they are the Managing Agents, are now the largest Paper Mills in India, with a yearly output of 10,000 tons of paper.

In the rapidly developing Coal industry Messrs. F. W. Heilgers & Company have a very large interest. The firm maintain coaling depôts at Colombo and the principal Indian Ports. They are Managing Agents for four Coal Companies, namely, the Borrea, the Standard, the Ondal and the Khas Jherria, in which a considerable amount of capital is invested. In addition to the above Companies, Messrs. Heilgers & Company are Agents for the Jogta, the Nuni and the Baraboni Collieries, so that their connection with the Coal industry is a very extensive one.

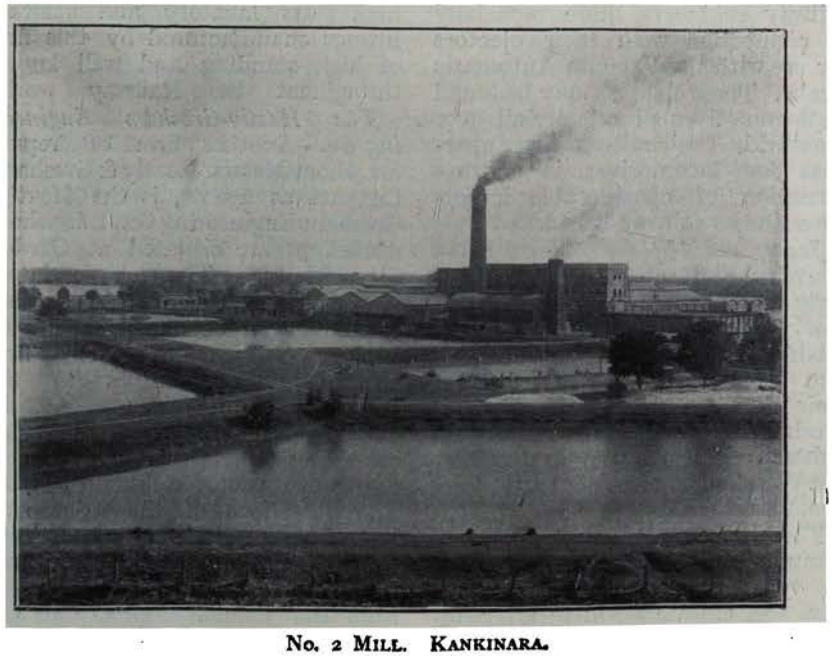
Messrs. F. W. Heilgers & Co. are also largely interested in the Jute trade, being the Managing Agents of the Kinnison Jute Mills Company, Limited, Titaghur, on the E. B. S. Railway, and at this Mill there are 650 looms working.



No. 1 Mill. Titaghur.

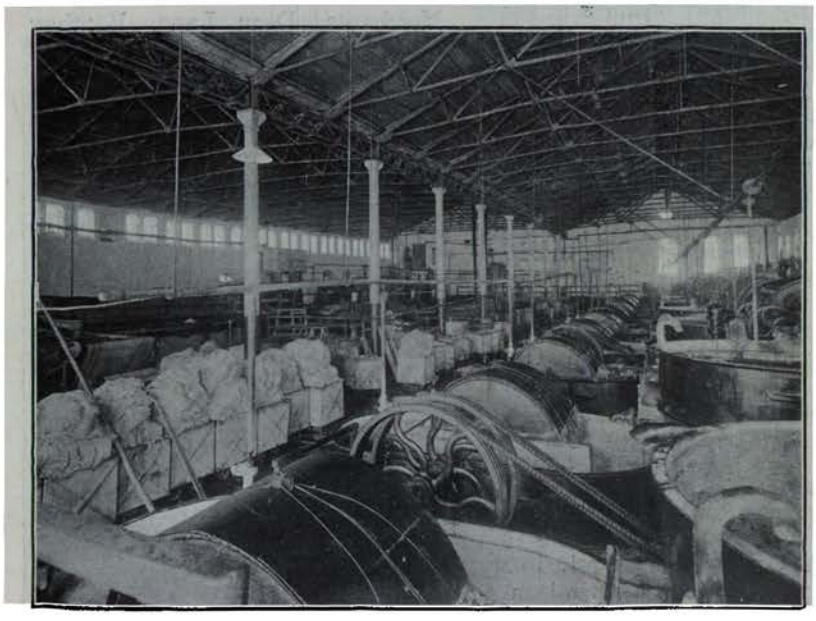
The Naihati Jute Mills Company, Limited, also under the management of this firm, are now building a Mill at Naihati. As exporters of "Hessians," gunnies and jute yarns, Messrs. F. W. Heilgers & Company do a large business, and other industries also engage their attention. Insurance forms another Department of this firm's business, and they hold Agencies for the Oriental Insurance Co., the City of Glasgow Life Assurance Co., and the South British Fire and Marine Insurance Co. Messrs. F. W. Heilgers & Co. are also the Calcutta Agents for the Florio Rubattino Line of Steamships.

The TITAGHUR PAPER MILLS Company, Limited, Calcutta. These Mills, situated at Titaghur and Kankinara on the Eastern Bengal State Railway, were established in 1882, with a capital of Rs. 26,00,000, and are the largest Paper Mills in India, fitted throughout in the most complete manner with the latest machinery by Bertrams, Limited, of Edinburgh. Messrs. F. W. Heilgers & Co., of Calcutta, are the Managing Agents, and were the first to introduce into India the manufacturing of paper from the Babui grass (Pollinia Eriopoda), an innovation which has proved of great practical utility and advantage to the industry. In 1902 the Titaghur Company absorbed the old Imperial Paper Mills Company, Limited, at Bhatpara, E. B. S. Ry., which had a capital of Rs. 12,00,000, and in 1905 the Titaghur Company acquired the machinery and good-will of the Bally

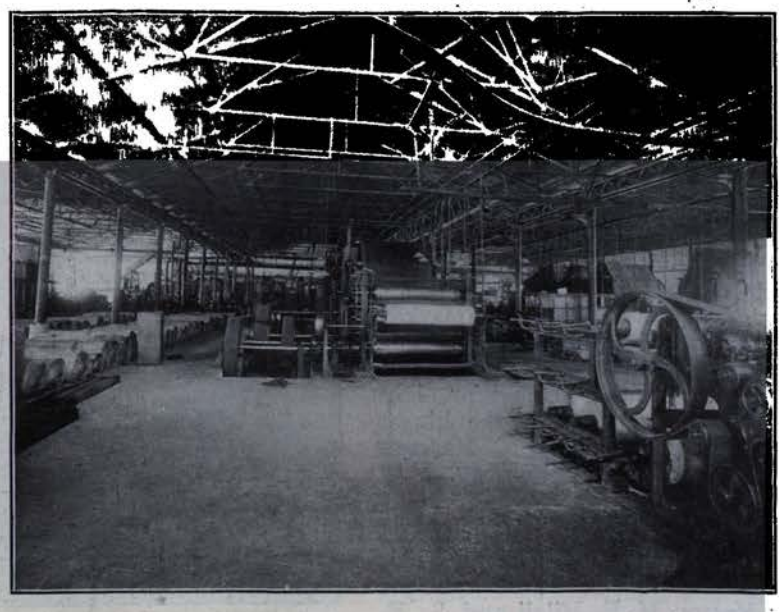


No. 2 Mill. Kankinara.

Paper Mills Company, Limited, these Companies thus ceasing to be rivals and becoming one concern to their mutual benefit. The making of paper in India has been carried on for many centuries in a crude and unscientific way, but it is only within the last three decades that its manufacture on a sound commercial basis, and by improved methods, has been attempted, and the success which has been obtained is due to the enterprise and perseverance of European firms, like Messrs. F. W. Heilgers & Co., who have succeeded in the face of many difficulties in manufacturing in India papers of as good qualities as those formerly imported from Europe. The materials used at Titaghur Mills are all obtainable locally, and consist of the Babui grass above mentioned, cotton rags, hemp and jute bagging; but the chemicals required in the manufacture have still to be obtained from the Home markets. Owing to the absence of wood pulp, which is not obtainable in India, and which forms a very considerable item in the materials used by manufacturers in England and Europe, the Indian made papers do not appear as clean as those made in England, but on the other hand they have many compensating advantages, as they are stronger and more durable, and stand the Indian climate much better than imported papers, which as a rule are heavily loaded and thus become liable to speedy disintegration. The qualities of the papers turned out by these Mills consist of what are technically known as "Fine Printings," "Engine-sized and Tub-sized writings," "Brown Cartridge," "Blottings," "Badamis" and coloured papers, and in quantity an output of ten thousand tons of papers is turned out annually.



BEATER HOUSE. No. 2 MILL, KANKINARA.



No. 2 MILL. MACHINE HOUSE, KANKINARA

The demand for Indian manufactured paper has, since it has been found practicable to compete both as regards qualities and prices with the imported article, steadily grown and is every year increasing; and whilst in India itself there are many large markets capable of taking up the bulk of the quantity produced, Burma, the Straits and Ceylon are also larger buyers of these papers. So far the further away markets of Australia, South Africa, etc., have not been tapped, the exorbitantly high rates of freight demanded by the Steamship Companies for the carriage of paper between India and these countries being prohibitive, and thus any extension of the trade in those directions is rendered impracticable.

The Titaghur Mills Company gives employment to some 2,000 native work-people, and for the various stages through which the raw materials pass until they emerge as the finished article, the supervision of European Managers and foremen is requisite, and the services of over a score of Europeans is thus engaged in the work.

Though comparatively a young member of the many industries which have sprung up in India during the nineteenth century, the manufacture of paper by modern processes and the latest machinery, bids fair to become one of the largest and most profitable undertakings introduced into the East by Western enterprise.

Mr. HERBERT HUMPHREY, second son of Mr. John Humphrey, proprietor of Messrs. Latham & Co., Banking and Shipping Agents, Bombay and Karachi, was born in 1875 in London, where he received part of his education, which was

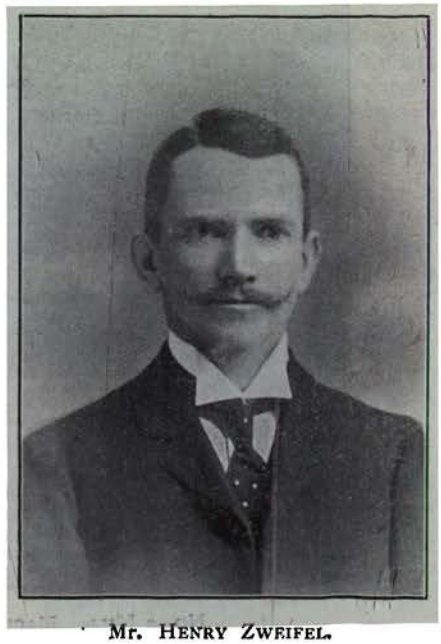
Mr. HERBERT HUMPHREY.

completed in Germany. Mr. Humphrey's early experiences were gained in the offices of the well-known Shipping House of G. W. Wheatley & Co., London, which firm he joined in 1893 and served for three years.

Mr. Humphrey came to Bombay in 1896 and joined his father's firm as an Assistant. Since his arrival and connection with the firm's business he has shown a marked ability which justified his being appointed Manager of the Karachi Branch, a position he held for eight months, leaving it for the higher and responsible post of Manager at the head office in Bombay.

Messrs. HILALI BROTHERS & Co., Merchants, Calcutta. This firm was established in the year 1901 by Messrs. H. E. Hilali and S. E. Hilali in partnership. These gentlemen are both sons of Mr. E. H. Hilali. The firm was started for the purpose of business as general merchants. Their transactions are largely in piece-goods which they import from England and the Continent. They also deal in lubricating oils and machinery, and are agents for Beeley Boilers and Hind & Lund's machinery, also for Alex. Young & Co. of London for machinery. Messrs Hilali Brothers do a large import business in sugar from Austria. In return they export Indian produce to Egypt to the House of Hilali Brothers in that country. Their business in produce extends throughout India and the volume of their exports as well as imports is considerable.

HOLLAND-BOMBAY TRADING Company, Limited, 28, Pollock Street, Calcutta, General Merchants. The Head Office of the Company is at Amsterdam; Director, Mr. C. W. Freese. This branch was established in Calcutta in the year 1896. There is also a branch at Bombay which was established in 1891, and the Company has Agencies in the principal business centres in India. Representing some of the largest Dutch firms the Company deals principally in piece-goods and general merchandise, and they export opium to Java in the Dutch East Indies. Mr. Henry Zweifel, Manager for the above Company, was born in the



Mr. HENRY ZWEIFEL.

year 1862 at Glarus in Switzerland. He received his education and commercial training in Switzerland and afterwards obtained experience in business in France, Italy and England. He first came out to India in the year 1882, and since 1902 has been Manager to the Holland-Bombay Trading Company, Calcutta.

Messrs. HOLLAND & MOSS, Ld., Merchants, Dean Lane, Bombay.

Mr. GRAY RIGGE.

This firm was established in Manchester, England, in 1855, and can thus claim to have had a long lease of life in the past. The firm opened its Bombay Branch in 1899. It deals principally in Manchester and Continental goods. Originally a private firm under the name of Whitehead and Sandbach, it was transformed into a trading Limited Company in 1898 under the name of Holland & Moss, Ld.

The present Manager, Mr. Gray Rigge, was born in England in 1870 where he received a private education, and began his commercial life by taking up an appointment with the well-known firm of E. Spinner & Co. in Manchester. During his seven years' service with the firm, in England, he gained varied and valuable experience by passing through the various departments. The firm was not slow in finding out Mr. Rigge's abilities and as a mark of their appreciation he was sent out to the Bombay Branch in 1895, where he continued Departmental Manager for three years. Mr. Rigge joined the firm of Holland & Moss in 1899.

HONGKONG & SHANGHAI BANKING CORPORATION.

This Corporation was primarily established in Hongkong in the year 1864, with a paid-up Capital of $10,000,000, and a reserve liability of the proprietors of another $10,000,000, and is the largest Banking Institution in the East, carrying on business in China, India, Ceylon, the Straits Settlements, Japan, Philippine Islands, Siam, Java and Cochin China, whilst it also has branches in England, Germany, France and America. The wide scope of its extensive operations may be gathered from the above, and there is probably no other Bank, and certainly not in the East, which has such varied and numerous business relations with other countries. The Head Office is in Hongkong, and the Director is there also, besides having a London Board. The Corporation has the privilege of issuing its own notes and at the end of 1904 had in circulation notes of the total value of over $16,000,000, whilst its current and fixed deposit accounts in silver and gold aggregated the handsome total of over 213 millions of dollars. The profits earned during the half-year ending 31st December 1904, were over 4½ million dollars and after transferring 1 million to the Silver Reserve Fund, and writing 2 lakhs off Bank Premises Account, and carrying forward to next year 1½ million and paying the usual remuneration to the Directors, a dividend of £1 10s. sterling per share, together with a Bonus of £1 sterling per share, were paid to the shareholders, making a total of 33⅓ per cent. for the original price of the share for the year. Such results as the balance sheet shows, cannot be achieved without the most careful attention and thorough efficiency on the part of the Managers and Staff of the Corporation, and must be very satisfactory to the shareholders. The Hongkong and Shanghai Banking Corporation, Calcutta Branch, was established in 1868, and from the commencement held a leading position amongst Banking Institutions in that City, its strong financial position and extensive connections with other countries trading with India, securing to it a large share of the financial business of the City and Port of Calcutta. The Bank's reserve fund now stands :—

HONGKONG AND SHANGHAI BANK.

Reserve Fund invested in 2347 Consols within down to £ 85	£ 700,000
Other sterling securities ...	£ 300,000
Additional Reserve in Silver ...	$ 80,00,000

The present Acting Agent is Mr. W. L. Dods.

Messrs. HURRY BROTHERS, Organ Builders, Calcutta, carry on the business of manufacturers of pipe organs on a scale and of a quality to suit Indian requirements. The high quality of the work turned out by the firm is well known throughout the East, only the best Indian seasoned teakwood being used in the manufactures of the firm's specialities which are renowned for lasting qualities. The firm was started in the year 1850 by the grandfather of the present proprietor. Their premises have been situated for the last twenty years at 133, Lower Circular Road, and the great experience which they have gathered during the past half century of the exigencies of the Indian climate have enabled them to obtain the leading position they now hold in their line of business. Among other notable achievements of Messrs. Hurry Brothers in organ-building is the great organ at St. John's Church, Calcutta, which was laid down in the year 1895 and has ever since been regarded as a fine specimen of the organ builder's art. Specimens of Messrs. Hurry Brothers' work also may be seen at the Murree Church, Christ Church, Cawnpore, St. Andrew's Church, Calcutta, Holy Trinity Church, Karachi, St. Francis Xavier's Church, Goa, Bareilly Church, and many other churches in India. This firm has won high encomiums from such authorities on Indian organs as Colonel Wilkins of the Survey of India, and Mr. Robertson, Chief Engineer of the East Indian Railway, who addressed a special letter to the Church authorities in praise of the work turned out by the firm, pointing out that while equal in workmanship to the best English productions, the local built organs were immeasurably superior in standing the effects of the Indian climate, not only the materials but the style of construction being specially suited to the country. This is the most important of very many testimonials which Messrs. Hurry Brothers have received to the excellence of their workmanship. While undertaking and building thoroughly well organs of the largest size, the firm make a speciality of small instruments for chamber and hall practice, and in these their prices are eminently moderate, considering the quality of the work they supply.

ORGAN BUILT BY HURRY BROTHERS.

Mr. AHMEDBHAI IBRAHIM is the son of Mr. Habibhai Ibrahim who was a merchant and left his son blessed with a large fortune which has been turned to good account. Mr. Ahmedbhai is the recognized head of the Sunni Khoja community otherwise called Ahmedbhai's party, which owe him much for their position and advancement; a member of the Bombay Chamber of Commerce and of the Mill Owners' Association. He is also Chairman and Managing Trustee of the Khoja Khan Mohamed Habibhai Anglo-Vernacular School, founded by his late elder brother, whose name it bears, and is an enthusiast in the cause of education. The school has about three lakhs of rupees in fund, invested in Government securities, and owns properties of more than one lakh under the direct management of Mr. Ahmedbhai. The school numbers from seven hundred to one thousand boys, without distinction of caste or creed, who are given free Anglo-Vernacular education.

Mr. Ahmedbhai is also a Justice of the Peace, and was one of the Committee appointed by the Government to frame laws for the Khoja community.

He owns Malad and other villages in Salsette, which once belonged to the Dadysett family. The villages were purchased from Government by Dadysett, and an offer of twenty-five lakhs was once made to Dadysett's sons, without success. This proved unfortunate for them, for they failed subsequently, and the villages were purchased by Mr. Ahmedbhai. These villages are now a very valuable property; many purchases of land have been made there at very high prices and hundreds of bungalows have been erected. They are from about sixteen to seventeen miles distant from Bombay and are resorted to as a sanatarium.

Mr. Ahmedbhai also owns many villages, several miles in area near Navsari called "Seaford" facing the sea. They formerly belonged to Messrs. Ford, Bickersett, Cleveland, Little and others, who acquired them from the Government, and were bought by Mr. Ahmedbhai from Messrs. the Seaford Company. He is the sole proprietor of two mills one of which, "The Victory Mills," is at Bombay and has 42,500 spindles; the other, the "Spinning and Weaving Mills," is at Colombo, the only one of its kind in Ceylon: this mill is largely patronised by visitors, the visiting fees amounting to a few thousands of rupees annually. The sole proprietor of several pressing and

Mr. AHMEDBHOY HABIBHAI

ginning factories at Surat, Navsari, Katchgaum, Ahmednagar, Agra, Banda, and Southern Maratha, Hubli, Gadag, Kopbal, and other places; he also possesses a large estate at Karwar in addition to very large and valuable landed properties in Colaba and out of the Fort in Bombay.

The IMPERIAL MARINE TRANSPORT & FIRE INSURANCE Co., Ld.—The remarkable genius of the Japanese people is in nothing better evidenced than in the manner in which they have assimilated the principles of the system of business that has grown up among the Western nations of Europe. Possessed of an ancient system of their own for the conduct of commercial affairs, they have grafted thereon the methods of European business houses and taken their place in line with the most advanced commercial communities in the world. Among the other sound concerns which the awakening of modern Japan has called into being is the Imperial Marine Transport and Fire Insurance Co., Ld. The Japanese nation has taken kindly to sea-borne trade, and the many lines of splendidly equipped steamers hailing from the land of the Rising Sun has rendered necessary the establishment of national business houses carrying on marine insurance on Western lines. The abovenamed Company undertake an extensive business in this line. Their Fire Insurance business is also large. The subscribed capital of the Company is 3,000,000 yen, and the paid-up capital 750,000 yen. The Head Office of the Imperial Insurance Company is at No. 11, Minanic|Kayabacho, Nihon-bashi-Ku, Tokio, and there are various branches and agencies in Japan. The Company have also Agents in Bombay, Messrs. Gaddum & Co., acting in that capacity for the Bombay Presidency. The following gentlemen constitute the Board of Directors: Messrs. Morimasa Takei, Shinkichi Miyashima, Lennosuke Yasuda, Zenzaburo Yasuda. There is also a Consulting Committee upon which the gentlemen below named serve: Messrs. Zenjiro Yasuda, Sanenori Sinoda, Hanzaburo Momiyama, Tanizo Kakinuma, Sanayoshi Okamoto, and Shuzo Tsukahara. Mr. Harono Mourasse acts as Manager of the Company with Messrs. Rintaro Komon and Masaoki Hikida as sub-Managers.

JAMBON et Cie., Merchants, Calcutta. This firm was established in 1898 by Messrs. Charles Jambon and Charles Aubert, as Export and Import Merchants, but they were not long established before the partners turned their attention to Manganese mining. In the Central Provinces and in the Deccan, where they have been extraordinarily successful, they were the pioneers of Manganese mining. In 1904, a Company was promoted to work their Central Provinces Manganese deposits on a larger scale and named The Central India Mining Co., Ld., who employ over 2,000 coolies. Their exports of ore during the last four years amounted to over one lakh of tons. Besides these, Messrs. Jambon et Cie. are Sole Proprietors of the largest Manganese mines in the Deccan, and they export Manganese to Europe and also to America. Their mines are fitted with an aerial ropeway, 3,000 feet long, to connect their own railway siding with the mines situated 1,000 feet above the level of the plain. Manganese is a quickly growing industry in India and Messrs. Jambon et Cie. are probably the largest dealers in the article. In their Deccan mines besides a considerable European staff, they find employment for over 800 workmen. Both partners are experts in the business, their experience having been acquired in Europe as well as in India. Besides manganese, Messrs. Jambon et Cie. own large limestone deposits at Hansapathur and Kulbona in the district of Manbhum and ochre quarries in Chota Nagpore. Among other enterprises Messrs. Jambon et Cie. formed in the year 1905 in London the "Indian Oil Products, Ld.," which is devoted to the extraction of oil from seeds and oily materials. They are also dealers in oil seeds and oil cakes. For the purpose of oil manufacture they have erected buildings at Narcoldanga, near Calcutta. These works are thoroughly up to date, and the factory is nearly a model one where certain patent processes are employed for obtaining oil and for improving oil cakes for manuring purposes. Messrs. Jambon in addition are agents for the celebrated Ripolin Enamel Paints which are so extensively used for painting tramway and railway carriages all over India, and for the Decauville Light Railways. M. Charles Jambon is Conseiller du Commerce Extérieur de la France, Consul for Republica Orientale del Uruguay, Vice-Consul for Portugal, and Agent of the French Government for the Indian Emigration to the French Colonies.

Mr. WILLIAM PATRICK JENSEN, Manager of the Insurance Branch of Messrs. Meyer, Soetbeer & Co.'s business, was born in the year 1873, and was educated in Ger-

many. On completing the course of a German student's life, Mr. Jensen turned his attention to commercial pursuits, and in 1889 entered the office of a Hamburg firm of merchants wherein he served for three years. Resigning this in 1892, he next joined an agency office in the same city, and in 1893 became an Assistant in the Head Office of Messrs. Meyer, Soetbeer & Co. in Hamburg. Gaining experience in and knowledge of this firm's extensive business connections with India during the next five years, he was in 1898 selected for their Indian Branch, and came out in that year as Manager of the Insurance Department of their Calcutta office, and as the firm are Agents for the Gresham Life Assurance Society, London, the Union Insurance Company of London, and the Fire Insurance Company of 1877 of Hamburg, he has large and important interests committed to his care.

The firm of Messrs. JAFFER JOOSAB & Co. was constituted in the year 1898 and is composed of four Khoja Mahomedan brothers, Mr. Karmally, Mr. Noormahomed, Mr. Jaffer and Mr. Rahim.

Mr. JAFFER.

They do business as Commission Agents and General Merchants in Bombay as well as throughout the Presidency.

The founder of the firm, Mr. Karmally, has a general business experience of over 30 years, during which period his character and business capacities have earned for him an honourable name in Indian trade circles. His exertions are not confined alone to promoting the interests of Messrs. Jaffer Joosab & Co., but his name is also found connected with extensive Government contracts, both in Native States and in the Bombay Presidency, under the name of Messrs. Karmally Joosab & Co., while he and his brother, Mr. Jaffer, carry on business in the name of Messrs. Noormahomed & Co., and control an extensive chartering business of freight to Europe, averaging some 30,000 shipping tons a month.

They also represent The Manufacturers' Life Insurance Co. of Canada, the Aachen and Munich Fire Insurance Co., the Continental Marine Insurance Co., the British Dominions Marine Insurance Co., Ld., and the National Union Insurance Society, Ld., of Bedford, Accident and Disease Insurance, and are the Agents for Messrs. Henke's Tile Works, of Feroke, which is conducted by Mr. Rahim Joosab.

The Hon'ble Mr. BYRAMJEE JEEJEEBHOY, C.S.I., the subject of this memoir, was the youngest son of Mr. Jeejeebhoy Dadabhoy, the Nestor of the Parsis. Beginning life as a godown-keeper to the firm of Messrs. Leckey and Malcolm (afterwards known as Messrs. Shatton Malcolm and Company), Mr. Jeejeebhoy Dadabhoy, by his abilities and resourcefulness, succeeded within a very short time in becoming a broker to the above and many another firm. He afterwards started a firm under the name of Messrs. Jeejeebhoy Dadabhoy Sons and Company, and established a considerable business with the Far East. He thus acquired a vast influence in the mercantile communities of Bombay, both European and Native, and had the proud distinction of being the first Native elected to the Bombay Chamber of Commerce. He was one of the active promoters and Directors of the Oriental Bank and also of the Commercial Bank of Bombay. He established the Bombay Steam Navigation Company and his vessel, the *Sir James Rivett Carnac*, was the first to ply on the Western Coast of India, carrying passengers and cargo between Bombay and the various ports of Guzrat.

Late Hon. Mr. BYRAMJEE JEEJEEBHOY.

He died in 1849. He liberally endowed Fire Temples, Madrasas and other educational institutions, and by his last will and testament left over two lakhs of rupees to be used for the benefit of his poor and destitute co-religionists. This charity has now increased to about Rs. 5,00,000 and is doing good work.

Mr. Byramjee Jeejeebhoy, the youngest of the four sons of Mr. Jeejeebhoy Dadabhoy, was born in Bombay on the 16th June 1822. He was educated at a private school kept by Mr. Mainwaring, where the youths of the native aristocracy of Bombay received their knowledge of English side by side with European boys. The shrewd and calculating business habits and youthful energy and devotion to work which he early displayed marked him out as a successful business man. He joined his father's firm and was soon taken as a partner. In 1854, on its dissolution, he began to carry on business on his own account, and was broker to many large commercial houses in Bombay. He gradually rose to wealth and eminence and succeeded in winning

his place as a leading merchant of Western India. In the early sixties he was appointed one of the Directors of the Oriental Spinning and Weaving Company and several other Joint Stock concerns. He took the initiative in starting the Royal Spinning and Weaving Mills. In 1870 he, with Mr. J. A. Forbes, established the first local Fire Insurance Company in Bombay.

The Government of Bombay soon began to appreciate his worth and worthy qualities, and he was created a Justice of the Peace in 1855 and a Fellow of the Bombay University in 1867. In 1868 he was nominated by the Government of Bombay an Additional Member of the Bombay Legislative Council, and on the expiry of his first term in 1870 was renominated for another term, an honour which, in those days, was very uncommon. His career in Council was marked by intense devotion to the interests of the public and great solicitude for the welfare of the people. Some of the legislative measures in the discussion of which he took an active part were the Cotton Frauds Act, the City Survey Act, the Toll Fees Act, the Act for levying Town-duty on Grain, and the Caste Festival Tax Bill. In 1876 Her Majesty the late Queen Victoria was pleased to confer on him the Companionship of the Most Exalted Order of the Star of India. Sir Phillip Wodehouse, the then Governor of Bombay, presented him with the insignia of the Order at a special Durbar held at Government House, Parel, on the 10th April. He was one of the few leading citizens of the Bombay Presidency who were honoured by the Government of India with an invitation to take part in the Ceremonial Durbar of the Imperial Assemblage at Delhi on the assumption by Her Majesty Queen Victoria of the title of the Empress of India, and was presented with the Durbar Medal by His Excellency Lord Lytton.

Mr. Byramjee was one of the largest landed proprietors in the Presidency. Besides several valuable properties in Bombay, and magnificent country houses commanding beautiful situations at Bandora, Matheran, Khandala and Poona, he owned seven villages in Salsette, in the Thana District, about 12 miles from Bombay. These villages comprise extensive tracts of land, the area of which is about 24 square miles, being equal to the area of the Town and Island of Bombay.

Mr. Byramjee was very fond of living at his country houses; he took a delight in being always surrounded by a large number of friends, his hospitality being proverbial.

But it is not so much for his political and commercial activities as for the princely munificence and the catholicity of his many charities that Mr. Byramjee's name is still cherished. The cause of charity and education was never pleaded before him in vain. He liberally endowed the Government Medical Schools at Ahmedabad and Poona, the High School at Thana and the Anglo-Vernacular School at Bhiwandy, and the Government of Bombay have, in recognition of his munificence, directed that these four schools should bear his name. The beautiful little hospital at Matheran is also the outcome of his far-sighted philanthropy and is named after him. He also gave generous donations to numerous other institutions, the principal amongst which are the Gujarat Provincial College, the Parsee Girls' Schools Association, the Bombay Native General Library, the Alexandra Native Girls' English Institution, the Victoria and Albert Museum, the Albert Edward Institute (Poona), the Parsee Maternity Hospital, the Pinjrapole, the Parsee Religious Funds (in Bombay, Poona, Ahmedabad and Calcutta). Some of these also are named after him.

In memory of his wife, Bai Maneckbai, Mr. Byramjee established a charitable dispensary at Mehmedabad, and also founded in connection with the University of Bombay, a Prize to be awarded in Science. His last but not the least act of benevolence was the founding of the Byramjee Jeejeebhoy Charitable Institution. In August 1890 he created a Trust whereby he made over Government Paper of rupees three lakhs and fifty thousand to the Trustees for the establishment of an educational institution for the education of the children of his poor co-religionists in order to enable them to earn a respectable living for themselves. The Trustees at once started a High School in a house situated opposite the Marine Lines Station, at first preparing boys for the Matriculation and School Final Examinations of the Bombay University, but they early realized the necessity of a change. They saw that the fields of the liberal professions were overcrowded, and that the doors of the merchant's office were practically barred against men whose whole education was received within the College walls, and whose only credentials were their ability to solve difficult problems in the differential calculus or trigonometry or to handle abstruse questions in metaphysics. Book-keeping, Accountancy, Banking and kindred subjects they thought would make better business men than Kepler's Laws or Euler's Theorem. If the Trustees were righteously to carry out the intentions of the donor, they had to make the change they did. The provisions of the Trust Deed were elastic enough to give them free action, and they conceived the scheme for turning the institution into a school of commerce. Six years have elapsed since then, and the Institution has now grown into a College of Commerce, under the able guidance of its Managing Trustee, Mr. P. N. Wadia, "the pioneer of Commercial Education in Western India," who has the sympathetic support and hearty co-operation of the Chairman, Mr. Rustomjee Byramjee Jeejeebhoy, and his other colleagues. This Institution will soon be housed in a magnificent pile of buildings which are about to be erected on the Queen's Road near the Charni Road Station. The Principal of the Institution, Mr. K. S. Aiyar, B.A., L.T., who is a distinguished Madras Graduate of conspicuous ability and long experience of Commercial Education, has approached the Bombay University, asking the authorities to introduce a Faculty of Commerce side by side with the Faculties of Art, Law, Medicine, and Civil Engineering; and it is to be hoped that their efforts will be crowned with success. The funds of the Institution have grown, by the liberal contributions of Mr. Rustomjee Byramjee Jeejeebhoy, the grandson of the donor and the Chairman of the Trustees,

and by large grants from the Hon. Byramjee Jeejeebhoy Trust Settlement, 1872, to a sum of rupees five lakhs and a half.

In 1872 Mr. Byramjee created a Trust Settlement for the benefit of his family, and in connection with it he also founded a Charity Fund. This fund amounts to Rs. 2,12,500, and its income is annually applied by the Trustees towards charitable purposes. This excellent charity has borne good fruit and has been the means of bringing into existence several useful institutions.

He died at his Bombay residence, "Byramjee Hall," Mazagon, on the 12th September 1890.

His son, Mr. Nanabhoy Byramjee Jeejeebhoy, was also for many years a leading public man in Bombay and held seats on the Directorate of several Joint Stock Companies, some of which he had himself founded. He was a Justice of the Peace, a Fellow of the Bombay University, and a leading member of the Municipal Corporation and the Standing Committee from 1872, the year in which they were established, down to about 1888, when ill-health forced him to gradually retire from active life.

Mr. Nanabhoy's son, Mr. Rustomjee, is also a Justice of the Peace and Honorary Magistrate, a Delegate of the Parsee Chief Matrimonial Court, and an ex-member of the Municipal Corporation of Bombay. He is a partner in the firm of Messrs. Byramjee Jeejeebhoy & Co. the Agents of the Ripon Manufacturing Company, Limited. He is also a Director of this and some other Joint Stock concerns and a member of several charitable and educational institutions.

Sir JAMSETJI JEEJEEBHOY, *Baronet*, was born of Parsee parents in Bombay on the 2nd November, 1852. He was first educated at home under the able tutelage of N. H. Hamilton, Esq. Matriculating in 1873, he passed the First Examination in Arts from the Elphinstone College in 1875. Mr. Jeejeebhoy (as he was then) entered Government service in 1879 as Assistant Collector, Salt Revenue Department. After serving in several districts, he succeeded to the Baronetcy in 1898 and naturally resigned his post. Sir Jamsetji is the recognized head of the Parsee community in India, and one of the leaders of the Native community. The year of

Sir JAMSETJI JEEJEEBHOY.

his baronetcy also found him a member of the Bombay Municipal Corporation. The honourable and responsible position of the Sheriff of Bombay was held by Sir Jamsetji in 1899.

Sir Jamsetji is a Fellow of the Bombay University, a Justice of the Peace and an Hony. Magistrate. As a delegate of the Parsee Chief Matrimonial Court, and as the President of the Board of Trustees of the Parsee Panchayat, Sir Jamsetji has gained deserving popularity for his interest in all matters pertaining to the welfare of his own community. To be selected as a representative of Bombay at the Coronation of His Majesty the King-Emperor, Edward VII, was an honour of which any man might justly feel proud, and this honour, unique in itself, was bestowed on Sir Jamsetji by the Government of Bombay in 1902, and may be taken as a sure proof of the high estimation in which Sir Jamsetji is held by that Government. This note will not be complete without especial mention being made of the Sir Jamsetji Jeejeebhoy Benevolent Institution, which institution owes its origin to the philanthrophy of the first Baronet and his consort, Lady Avabai, in 1849. The object of this institution is the education of poor and other Parsee children, and in mitigating the evils of poverty and the ills consequent on infirmity and old age among the Parsee community. The institution has branches in different parts of India in which the aggregate number of children taught, free of cost, is about 2,500. Sir Jamsetji is President of this institution. As far back as 1869, Sir Jamsetji married Miss Gulabi, daughter of Mr. Rustomjee Ardeshir Wadia, since then the worthy couple have been blessed with one son and three daughters.

Mr. JAMSETJEE CURSETJEE JEEJEEBHOY is a grandson of the first baronet, Sir Jamsetji Jeejeebhoy, K.C.B., and third son of the second Baronet, Sir Jamsetjee Jeejeebhoy, who died in 1877. Mr. Jamsetjee Cursetjee was born in Bombay in the year 1860, and was educated at Elphinstone College in that city and matriculated at Poona. He was for nine years one of the leading members of the local Municipal Council, and is an

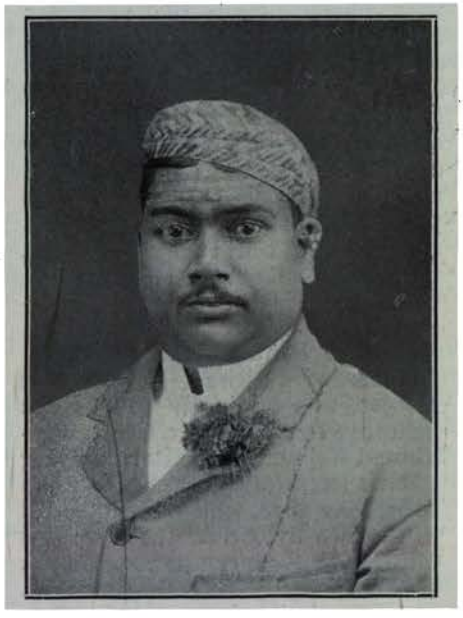
Mr. J. C. JEEJEEBHOY.

Honorary Magistrate and Justice of the Peace, and a Member of the Poona Suburban Municipality. Mr. Jamsetjee Cursetjee is also a Trustee of the Parsee Punchayat, and a Member of the Jeejeebhoy

Trust. He married in 1882 Awabi Shapurji Dhanjibhai. The family name is a password for benevolence, liberality and loyalty. He has two sons and two daughters.

Messrs. JETMULL & BHOJRAJ carry on business in Darjeeling and the adjacent towns and districts as Bankers, Commission Agents, Merchants, Contractors and Piece-goods Merchants. Established in 1845 by Jetmull Sukhani, deceased they are the official Bankers of the Sikkim State and are also Mill owners and order suppliers. Their Head Office is in Darjeeling, and they have Branches at Gangtak, Singtam Namchi, Socing and Rungpo in Sikkim; Chumbi and Pharijong in Tibet; Pankhabari, Panighatta, Pashok Tea Estate, Teesta Valley Tea Estate, Siliguri and Sorang in the Darjeeling District; and Sirsa in the Hissar District, Punjab. They own oil, flour and rice mills at Parbatipur, E. B. S. Ry., and have Agencies at Kurseong in the Darjeeling District, Dinagepur, Cawnpur, Delhi, Lucknow, and Bombay. They have dealings and accounts with the Bank of Bengal, Calcutta, Kharagsingh and Lachiram, Calcutta, and Lloyd's Bank, Ld., London. They do an extensive Banking and Agency business and are deservedly held in high esteem by the planters and other European residents of Darjeeling. The Parbatipur Oil Mill was started in 1905 by Babu Chhogmull Sukhani, senior partner of the firm. Commencing with 28 ghanies, 84 more ghanies have now been added. A flour and rice cleaning mill has subsequently been added to the oil mill, and the mill is now the largest in that part of Bengal, employing about 90 hands. The partners of the firm are Chhogmull Sukhani and Hazarimull Sukhani, sons of the late Bhojraj Sukhani, and Ramchandra Sukhani, son of the late Jetmull Sukhani, the last named being the owner of one half share and the first two of the other half.

Mr. CHHOGMULL SUKHANI.



Mr. RAMCHANDRA SUKHANI.

The Chief Manager of the firm is Babu Ramchandra Marda of Churn District, Bikaneer. Babu Gajanand Sukhani of Sirsa District, Hissar, is Deputy Manager, and the Assistants are Babu Surajmull Ladha of Sirsa and Pundit Nag Narayan Tewari of Rasulpur, District Saran.

The partners of the firm have contributed substantially to works of public utility. They maintain Dharmsalas for the freeu se of travellers at Darjeeling and Siliguri, Gangtak and Rungpo, also at Phephana in the Bikaneer District. They built a large tank at Phogan in Bikaneer District, and contributed Rs. 10,000 to the Victoria Memorial Hospital, Darjeeling, and contribute Rs. 50 monthly towards the expenses of Brahman students reading Sanscrit at Benares. They also subscribed towards the construction of the Woodburn Memorial Fountain at Darjeeling, and to the digging of a very useful well at Sirsa.

Babu Chhogmull Sukhani, senior partner of the firm, was born in the year 1856 at Ellenabad, District Hissar, Panjab. He is a Commissioner of the Darjeeling Municipality.

Babu Hazarimull Sukhani, a partner, was born in the same place in the year 1859.

Babu Ramchandra Sukhani, third partner in the firm, was born in the year 1880 at the same place.

The partners reside at Sirsa in the Hissar District and at Darjeeling.

Messrs. KAHN & KAHN, Bombay, was founded in 1864 in Paris under the name of Messrs. Hermann & Kahn which was changed in 1887 to that by which it is now known, Messrs. Kahn & Kahn. The Bombay Branch was opened in 1889 under the management of Mr. B. Schnabel who was succeeded in 1896 by Mr. O. St. Goar, the latter giving place in 1904 to Mr. Percy Clare. Besides the branches at Delhi and Amritsar another was opened at Calcutta in 1901 under the joint management of Messrs. Walter Lomax and Robert Bazley. A Branch also has been opened in Lyons (France) under the joint management of Messrs. J. Lehodey and Geo. E. Browne and there are Agencies in London, St. Etienne and Bâle.

The firm own the principal interest in Messrs. Kahn & Co., Ld., Hamburg, of which concern Mr. O. St. Goar is the Managing Director.

Besides their extensive export trade to India, China and Japan they import largely to the United Kingdom and the Continent of Europe Chinese and Japanese silk piece-goods, this being a trade which they were among the first to handle, some 25 years ago.

They have also a large and growing connection in the United States which the Lyons House particularly attends to.

The partners are Mr. Herbert Ernest Kahn, Mr. O. S. Dar Kahn, Mr. E. Philipi and Mr. Max Adler.

Messrs. JULES KARPELES & Co., Merchants, Calcutta and London. This firm was founded in 1897 by Mr. Jules Karpeles, the well-known Indigo expert, who was formerly a partner in Karpeles, Heilgers & Co., Merchants of Calcutta. Mr. Karpeles is of French extraction and received his early training in Paris. He commenced his business career in Hamburg and subsequently proceeded to London, acquiring a thorough knowledge of the Indigo trade, in which he is now considered a high authority. The original firm of Karpeles, Heilgers & Co. were very considerable buyers of Indigo and the present firm is one of the largest Indigo buyers at present in India. Mr. Karpeles has

Mr. JULES KARPELES.

not confined his interest in the Indigo business to buying and selling, but has been responsible for the improvement of Indigo growing in India, always actively engaged in furthering the interests of the local industry both in the field and on the market. It was Mr. Karpeles among local experts who first recognized the danger from the production of synthetic Indigo in Germany, and among other means of meeting the danger promulgated the idea of introducing Java and Natal seed to replace the inferior indigenous varieties, as a means of saving the Indigo industry of Behar from extinction by the German product. He has been active in writing up this subject and in personally interviewing the planters to explain the project. Besides his high reputation as an expert in Indigo, Mr. Karpeles has acquired a considerable name in connection with fibres. He is the promoter of the Bengal Rhea Syndicate formed with the object of introducing Rhea, a fibre-producing plant of great value, as an auxiliary or alternative crop into the Indigo concerns of Behar, and about 300 acres of Rhea have already been planted and several Rhea factories are being built by the Rhea Syndicate.

Messrs. G. F. KELLNER & Co., Wine Merchants, Agents and Proprietors of Railway Refreshment Rooms, was originally founded 52 years ago by the late Mr. George Ferdinand Kellner, who after carrying it on successfully for many years retired in 1878, and was succeeded in the firm by Mr. A. J. Bridge and Mr. George Kellner. In 1894 Mr. W. H. Walmsley joined the business, and was admitted a partner in 1898. Shortly afterwards Mr. Bridge retired, and Mr. George Kellner also retired from active participation in the firm's business owing to ill-health; Mr. W. H. Walmsley then became senior partner, and the present proprietary consists of Messrs. W. H. Walmsley, George Kellner and E. C. Russell.

The first Refreshment Room was opened by the firm in 1853 at Burdwan, and from that time they have gradually advanced and increased as the Railways have opened up the country, and Messrs. Kellner & Co.'s rooms now extend as far as Simla. The Refreshment Rooms of the firm extend from Howrah to Simla in the North, Howrah to Jubbulpore and Nagpore in the West, and Howrah to Vizianagram in the East. These rooms cover a mileage of over 4,000 miles of Railways, and embrace the East Indian Railway, the Bengal-Nagpur Railway, the Delhi-Umballa-Kalka and Simla Railways, and from this some idea may be obtained of the responsibility and anxiety to meet satisfactorily the demands of the public with Indian servants to deal with.

An idea of the magnitude of the work undertaken and the staff employed to successfully carry on these Refreshment Rooms, over 50 in number, can be gathered from the following figures: European Staff, 45; Native Staff, 862; and the consumption of the principal items of food for *one month* is also interesting reading; over 6,500 lbs. of beef, 6,000 lbs. of mutton, 27,000 eggs, 15,000 loaves of bread, 4,400 seers of milk, 2,500 fowls, 375 lbs. of tea, 250 lbs. of coffee, and 4,000 lbs. of sugar being required.

Besides the Refreshment Rooms the firm were the pioneers of Railway dining cars in India, having run the two dining cars between Howrah and Bombay, and *vice versâ* since October 1897, and the testimonials written in the Manager's books prove how well these are supplied and how much appreciated by the travelling public.

The firm have been often called the "Spiers and Ponds" of India, but it is questionable whether this well-known Home Firm would be capable of serving up anything like the same class of food as G. F. Kellner & Company do with the poor raw materials obtainable at many of the stations. As Refreshment Room Caterers they stand out by themselves, and their rooms are those to which all others are compared. No complaint is too small to be enquired into, and if at times there are complaints, as there must be in all big concerns, it is always due to laxity on the part of the local staff and disregard of Head Office instructions.

The management of this branch of the firm's business is under the immediate control of Mr. W. J. Carter, who has had practical experience of the working of the rooms, having passed through all grades till he obtained his present position.

Not only as Caterers to the travelling public have Messrs. G. F. Kellner & Company a reputation second to none in the East, but equally so are they known as the Firm "*par excellence*," to whom was entrusted exclusively the catering for H. R. H. the Prince of Wales (now His Majesty the King-Emperor) on the occasion of the Royal visit to India in 1875; and on several occasions this firm has catered

for Royal and other exalted personages during their tours in India. The firm was busily engaged at the great Delhi Durbar Camp of 1903, and successfully ran the messes of the Consul's Camp, the Press Camp, the Rajputana and Travancore Camps, the Mutiny Veterans' Camp, and the somewhat novel Native Press Camp.

We now come to the other side of the firm's business, *viz.*, that of Wine Merchants, and here again they stand out head and shoulders above their contemporaries.

In dealing with Kellner's one may rely on getting both quality and value for their money and what is also a great consideration, wines and spirits suitable to the climate, the result of over 50 years' practical experience. Many wines and spirits good in the climate of Europe are virtually poison to people living in India, and it is experience and experience only, which enables the firm to discriminate and reject wines and spirits unsuitable for consupmtion in a tropical climate. This experience has been gained by a judicious process of selection and rejection. Firms have come and firms have gone—brands have come and brands have gone,—but Kellner's still go on, ever-increasing, due alone to the fact that, they put the quality *in the bottle* not on the label or in flaunting advertisements.

In addition to their own well-known brands of wines, and the still better known brands of whisky, such as "White Seal," "Green Seal" and "O. H. M. S.," they are sole agents for India for firms of world-wide reputation, such as Pomery and Greno, etc. The firm's imports of wines, etc., exceed those of any other house in India, and when we mention that in whisky alone their imports exceed the next largest importer by thrice, an idea of the leading position they hold in the trade is easily gathered, and it is no wonder such Clubs as the "Bengal Club," "New Club," "Chittagong," "Shillong" and many others, deal almost exclusively with them. In addition they number some of the largest Messes in both the British and Indian Armies on their books, and their clientèle amongst Civilians, Native Princes and Nobles, and the public generally, is probably the most extensive of its kind throughout the Peninsula of Hindustan.

An inspection of the premises will readily convince one of the foregoing. There one sees huge sherry butts, each of 400 gallons capacity, used for blending whisky, thousands of bundles of case boards from Norway and Sweden for making cases, hundreds of gross of empty bottles from Germany, capsules and labels in uncountable quantities, and a look into the firm's private Bonded Warehouse, discovers cask upon cask of whisky and vast stores of wines. A visitor then realises he has been over the premises of the largest and best known Wine Merchants, East of Suez.

The buying, tasting, blending, is done under the personal supervision of the Managing Partner, Mr. Walmsley, who also gives his attention to the selection of the finest French and English stores, and in these as in the wines, they have made quality the first study, and any bottle or tin with Kellner's label on it is a guarantee of its being the best of its kind procurable. The firm have made rapid strides during the past ten years, and Kellner's is now a household word in every part of India, and based as its business is upon the sound foundation of integrity in its dealings with the public, they have nothing to fear from the competition of rival firms.

Mr. WILLIAM HERBERT WALMSLEY, Managing Partner of Messrs. G. F. Kellner & Co., Calcutta. In the comparatively short period of time of twelve years this gentleman has become the head of one of the largest and most respected Mercantile Houses in India, as it was, but in 1894 Mr. Walmsley joined G. F. Kellner & Co., as Manager, a firm which fulfils in the East the functions of Spiers & Pond in the West. Mr. Walmsley, after completing his education at Reading, commenced his business career in the London firm of Cutler, Palmer & Co., in 1882, and came out to India, for that House, in 1885, serving in their Madras, Bombay, and Calcutta Branches, ultimately becoming General Manager for India. After serving Cutler, Palmer & Co. for nine years, he resigned in 1894, and joined Messrs. G. F. Kellner & Co. as Manager. In 1897 he was promoted to a junior partnership and has since become senior partner. Founded in 1853, the firm of G. F. Kellner & Co. commenced business at Burdwan, and have since gradually extended their operations until now they have over fifty branch establishments in different parts of India. Mr. Walmsley, in addition to conducting the affairs of his own firm, is a Director of the Raneegunge Coal Company, and was one of the original founders of the Calcutta Wine Association, on the Committee of which he sat for several years. Being an enthusiastic Volunteer, he was formerly a Member of the Madras Mounted Infantry and the Bombay Artillery Volunteers; he is

Mr. W. H. WALMSLEY.

now an Honorary Member of the Calcutta Light Horse. He has also found some time from his duties to devote to sport, is a member of the Calcutta Turf Club, and is the owner of some good racing stock, amongst them being numbered the Australasian pony mare, "Housemaid II," with which smart performer he won the pony blue ribbon, the Civil Service Cup at Lucknow in 1902, thus securing that coveted trophy to a Calcutta owner for the third time only since the institution of the race in 1883.

Mr. Walmsley married Miss K. Kellner, a daughter of the original founder of the firm, and has one daughter.

Messrs. KETTLEWELL, BULLEN & Co., Merchants, 21, Strand Road, Calcutta. This prominent firm first opened business in the year 1852 under the style of Kettlewell, Drabble & Co. The original founders of the firm were W. W. Kettlewell, R. R. Drabble and John N. Bullen. Their agents in London were Messrs. Cattleys, Carr & Co. Mr. Drabble left the firm in 1859, and the style of the firm was then changed to its present form of Kettlewell, Bullen & Co. A branch in London was at this juncture opened with offices at No. 54, Old Broad Street. Mr. Kettlewell carried on the business with Mr. Bullen alone till 1866 when Mr. J. C. Murray joined them and for the next four

Mr. W. L. MACKENZIE.

years the three partners carried it on till the year 1870 when Mr. Kettlewell also retired. In course of time other partners entered and some retired from the firm in the following order: Mr. J. W. O'Kiefe, joined 1879, died 1883; Mr. W. J. M. MacCaw, joined 1883, has continued till the present day; Mr. J. J. Maxwell, joined 1891, retired 1892; Mr. J. H. Bullen, joined 1893, retired 1895; Mr. G. R. Cheetham, joined 1896, retired 1903; Mr. W. R. T. Aitkin, joined 1897, continues till present day; Mr. W. L. Mackenzie, joined 1903, continues till present day. The present partners are thus: Messrs. W. J. M. MacCaw, W. R. T. Aitkin, London, and W. L. Mackenzie, Calcutta. Messrs. Kettlewell, Bullen are very prominently connected with agency business, having some of the best agencies in Calcutta. They are Agents for the Bowreah Cotton Mills Co., Ld., the Fort Gloster Jute Mill Co., Ld., with Branch Mill at Jagatdal, the New Ring Mill Co., Ld., all Indian industries. Also the Manchester Assurance Co. for Fire Insurance, the Law, Union and Crown Insurance Co. for Fire and Life Insurance, the Indemnity Mutual Marine Insurance Co., the London Assurance Corporation for Life Insurance. They are also interested in the Indian Tea Industry, being agents for the Mothola Tea Company, Ld., and the Joonktollee Tea Company, Ld. The Bowreah Cotton Mills Company is an important concern in this line with a capital of 18 lakhs of rupees, represented by 6 lakhs each in Ordinary, Preference A and Preference B shares, and 7 lakhs Debentures. This concern was started in the early part of the nineteenth century, about 1820, and incorporated as a Company in the year 1873. The Company was taken over from Messrs. Macallister & Co. by Messrs. Kettlewell, Bullen in 1879. Employs about 1,200 operatives working 65,000 spindles. It carries on the business of cotton spinning. Its Manager is James Farrer. The Fort Gloster Jute Mill is another concern taken over from Messrs. Macallister & Co. in the same year, 1879, by Messrs. Kettlewell, Bullen. This concern was started by the first-named firm in the year 1873 to carry on the business of manufactures of gunnies and jute fabrics. It is a large mill with 870 looms employing about 5,500 operatives. The Mill is situated on large premises covering about 400 bighas of land at Fort Gloster. The Manager is Mr. Daniel Forrester. Its capital is made up of 14 lakhs Ordinary shares, 14 lakhs Preference and 10 lakhs Debentures. The Board of Directors consists of the following gentlemen: Mr. W. L. Mackenzie, Chairman; Messrs. W. T. Robertson, C. R. Hills, and Victor Murray. The New Ring Mill Company, Ld., was established in the year 1896 by Messrs. Kettlewell, Bullen, at premises near Ooloo berriah on the River Hooghly, a few miles below Howrah. The Company carries on the business of manufacturers of cotton goods and cotton spinners and employs about 600 operatives working some 20,000 spindles. The Mill stands on about 100 bighas of land belonging to the Company. The capital is 9 lakhs, 3 lakhs Preference and 3 lakhs Ordinary shares and 3 lakhs Debentures, and the Manager is Mr. John Broome. Mr. William Lindsay Mackenzie, the resident partner of the firm of Kettlewell, Bullen, was educated at King William's College in the Isle of Man. He joined his present firm in 1886.

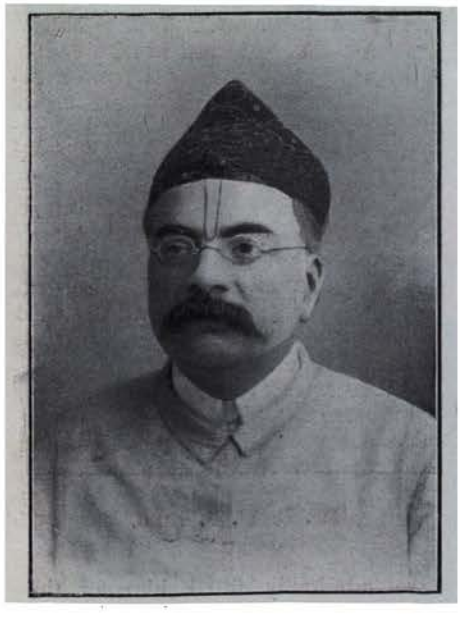
Mr. NASERWANJI JEHANGIR KHAMBATTA, trading in the name of Khambatta & Co. as Coal

Mr. N. J. KHAMBATTA.

Merchants, 9, Elphinstone Circle, Bombay. Mr. Khambatta was born in the year 1845 at Broach in the Bombay Presidency. He was educated at Bates College, and started his commercial life with the old established firm of Edward Bates & Sons with whom he stayed some five years, gaining a thorough insight into business. In the year 1870 he joined the firm of Messrs. W. Nicol & Co., old established merchants, and was with this firm for six years. In the year 1878 in conjunction with

his brother, Mr. C. J. Khambatta who was associated with him in Messrs. Nicol & Co.'s employment, started his present firm of Khambatta & Co. They carry on business as Coal Merchants supplying coal principally to Shipping Companies and also to all the Royal Navies. The Khambatta family are all old residents of Bombay. Mr. C. J. Khamhatta is since deceased. The present partners are N. J., J. J., M. C. H. N. and P. N. Khambatta.

Mr. GORDHANDAS KHATTAU was born in Bombay in 1865 and his father, Khattau Makanji, in Cutch-Tera. At an early age Mr. Khattau came to Bombay and served his apprenticeship in the flourishing Bhatia firm of his uncle, Jivraj Baloo. His intelligence and business instincts brought him to the notice of his master, and before long he



Mr. G. KHATTAU.

was admitted as a partner in the firm at Coomta. In a few years he was entrusted with the sole management of the head firm by Vasonji Jivraj, the son and heir of his master. This proved the turning point in the life of young Khattau and the firm of which he was then the leading spirit. Those were the years of the American War. Considerable profits were made in the cotton trade, and a period of prosperity commenced. As a marked proof of his sagacity may be mentioned the fact that in those days of the share mania he steered clear of all temptations in that connection. He then carried on business on his own account in the name of Gordhandas Khattau & Co., and long before his death made a name for himself second to none in his communiity, both by his remarkable business capacity and by that benevolent disposition which characterised him in all the aspects of his busy life. At his death he left two sons, the eldest, the subject of this notice, being then only eleven years old. The early education of the boy was begun in the Mumbadevi Government A. V. School, from which institution he was transferred to the Fort High School where he finished his English education.

The hard duties of life now demanded his attention; and young Gordhandas, still in his teens, began to take a lively interest in the management of the Khattau Mills, and after his uncle's death assumed charge of the Bombay United Mills. He also worked for a decade as the agent of the Britannia Mills, and the years that have elapsed since have marked him out as a successful and hard-working mill-agent. In 1890 he successfully stood for the Mandvi Ward, and in 1898 was again nominated by Government to a seat in the Bombay Municipal Corporation. In recognition of the high position he held in his community he was made a J.P. in 1891, and was one of the few who were invited from Bombay to attend the Coronation Durbar. It must be admitted that his many duties have prevented him taking any very active interest in civic life; for, besides managing three cotton mills and being on the Board of Directors of a number of public companies, he is Chairman of the Oriental Life Assurance Company, the Bombay Telephone Company, the Bombay Cotton Manufacturing Co., the Khattau Makanji Spinning and Weaving Co., and the Presidency Mills Co. He is also engaged in the pearl business, in which he is ably assisted by his eldest son, Mr. Tricumdas.

Mr. Gordhandas is still a young man and has before him many years of active life. Highly respected in his own Bhatia community and esteemed as one of the foremost citizens of Bombay, he has done not a little to maintain the good repute of his family. With his brother Mr. Mulraj Khattau, he has set apart the sum of one lakh of rupees in the cause of education, the interest accruing from that sum being devoted towards maintaining 12 to 13 boarders at the Goculdas Tejpal Boarding School. The fine temple at Thana called Bal Rajeshwar in memory of his deceased son, testifies to his belief in the faith of his fathers, and that the ideals of the West have failed to exert a materialising influence upon him. In politics Mr. Gordhandas is known to hold moderate views, and though in complete sympathy with the legitimate aims and aspirations of his educated countrymen, he refuses to find, in mere political agitations, a panacea for existing evils.

VISSANJI KHIMJI, J.P., Rao Bahadur, Bombay, senior partner in the well-known firm of Messrs. Vissanji, Sons & Co., Proprietors of the Wallace Flour Mills, 72, Apollo Street, Fort, Bombay, is by caste a Bhatia, a small but very successful community in India. Mr. Khimji, who has occupied a seat in the Council of the Governor of Bombay, was given the title of Rao Bahadur by the Government of India in recognition of the noble and well-known part he played in the earlier years of the plague. On the outbreak of this dire disease he set his countrymen the much needed example of remaining in Bombay and sparing neither himself nor his means in trying to alleviate the great suffering and privations the poorer classes were experiencing. Every morning he sought out those who had been stricken down the night previous and saw them removed to hospital and to the segregation camps, permitting his own bungalow to be converted into a temporary inoculation ward. During the years of famine also he provided clothing most liberally and practically fed entire villages. Mr. Vissanji's success in business is traceable to sheer hard work and perseverance. Fifteen years ago he fought a fight of trade endurance and won. Rolls had then just suc-

ceeded in ousting the last of the stone mills from the district, and were in full enjoyment of a clear field, when Mr. Vissanji entered the lists with a new mill and a roller plant on Robinson's best system. At first he was not so well treated, perhaps, by the trade world, as he would have wished, but his disappointment did not deter him from pushing forward and firmly establishing his business. It is stated that the shipping companies then trading with the African ports refused, for various reasons, to carry any flour but that bearing the brand of Mr. Vissanji's competitors: Mr. Vissanji checkmated by chartering a ship to carry his own consignment of 5,000 bags to Mauritius. The difficulty was overcome, and Mr. Vissanji scored.

He was next visited by difficulties with the Railway. The reply invariably vouchsafed to complaints was that other people were charged the same rate, and that no rebate could therefore be allowed. Mr. Vissanji then set himself to collect evidence and memorialised the Government of India,—a step which was found unnecessary, however, as the Railway Authorities agreed to grant him the rebate for which he asked, on the condition that Mr. Vissanji guaranteed to send outward 2,000 tons per annum. It says much for Mr. Vissanji's power of prevision that the guarantee was immediately given, and from that day forward the firm have had nothing to complain of in connection with the preferential treatment once meted out to competitors.

Mr. VISSANJI KHIMJI.

The original capacity of the Wallace Flour Mills was 10 sacks, which has been increased from time to time until it has now reached 30 sacks per hour. The Mill has also a complete washing and conditioning plant, and a silo installation of 120,000 bushels capacity. Mr. Vissanji has the distinction, we believe, of being the first miller to instal these two latter in India, and it is admitted that, in regard to the silo installation, his judgment has been justified by results. The work throughout, both of the original mill and the many extensions, has been executed, with their usual skill, by Messrs. Thomas Robinson & Son, Ld., Rochdale, and the mill to-day, which is lighted by electricity, and has a Grinnell sprinkler installation, is one of the most successful in India.

Mr. Vissanji has, of late years, considerably extended his interests, and among other things is doing a large business in seeds and cotton. He is now 60 years of age and is retiring from the business he has so successfully established. Mr. Vissanji Khimji is succeeded by his son, Mr. Matherdas Vissanji.

Mr. DANIEL WILLIS PETER KING was born at Dover in 1853, and after being educated for the Royal Navy joined the Railway Clearing House, London, in 1868. In 1870 he was selected by the London and North-Western and Great-Western Railways in connection with the auditing of their joint accounts. He joined the Delhi and London Bank in London in 1875, and in January 1878 he came out to India in the Bank's service. On various occasions he filled the office of Acting Manager, Calcutta, and in 1890 he was appointed Manager. In 1894, Mr. King left the Delhi and London Bank, and joined the firm of Messrs. Andrew Yule & Co., and in the following year, in connection with Mr. David Yule, started the Bank of Calcutta. He was the Agent and Director until 1903 when he took the office of Managing Director. Mr. King has been a partner in the firm of Messrs. Andrew Yule & Co. since 1902.

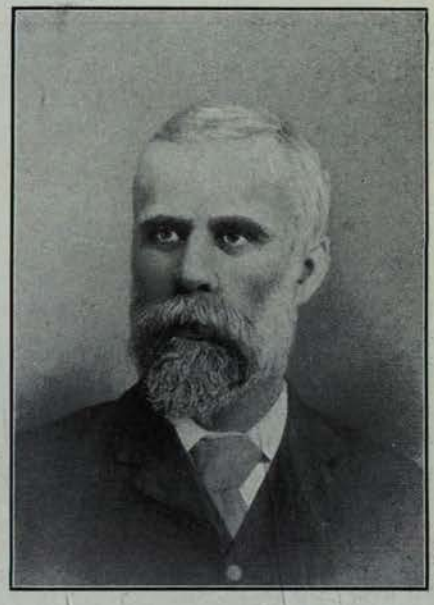
He has identified himself actively with the business history of Calcutta, and was an active supporter of Sir David Barbour's currency scheme of 1893. Mr. King is interested in many enterprises and branches of industry; he is a Director of coal, jute, ice and paper companies, and is concerned in many large tea companies. Mr. King is a very active and capable business man and intimately acquainted with the commerce of Bengal. His training and experience

Mr. D. W. P. KING.

have admirably fitted him for the many important enterprises that he assists to control. The jute trade of Bengal is one of the first importance, and Mr. King has been prominently associated with its progress. The financial management of tea companies needs considerable knowledge and experience, and in this direction Mr. King's business ability has found full play. The conditions of commercial life in India demand the keenest attention and unvarying energy, and Mr. King is possessed to the fullest degree of these business qualities.

JOHN KING & CO., LD.

The late Mr. JOHN KING.

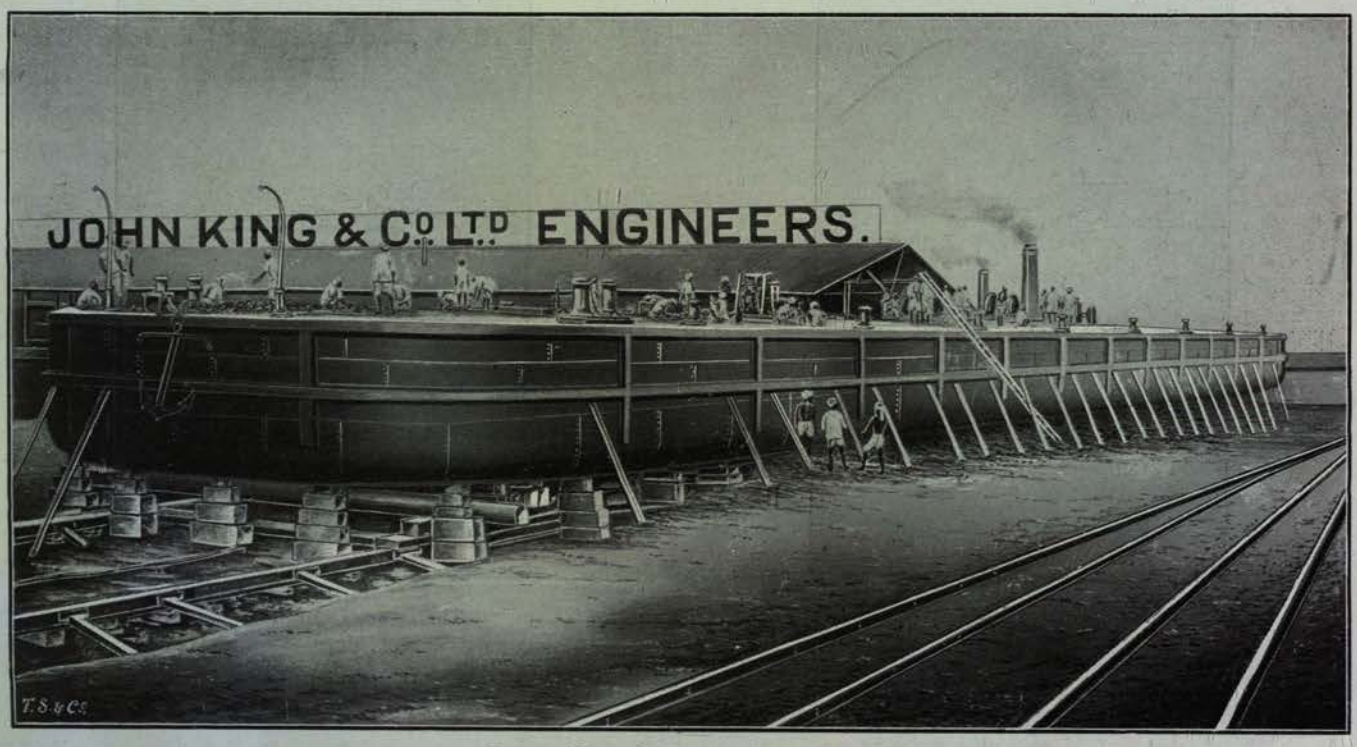


The late Mr. JOHN CLARKE.

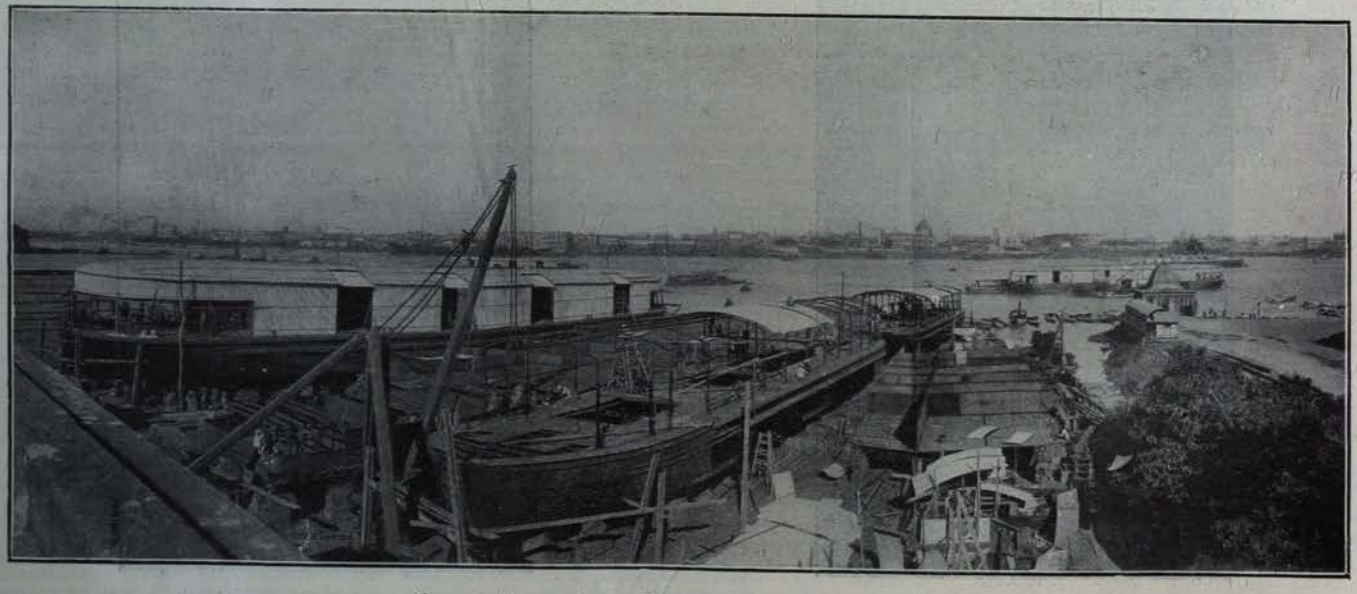
Mr. ALEXANDER DAW.

Mr. JAMES MUIR.

JOHN KING & CO., LD.

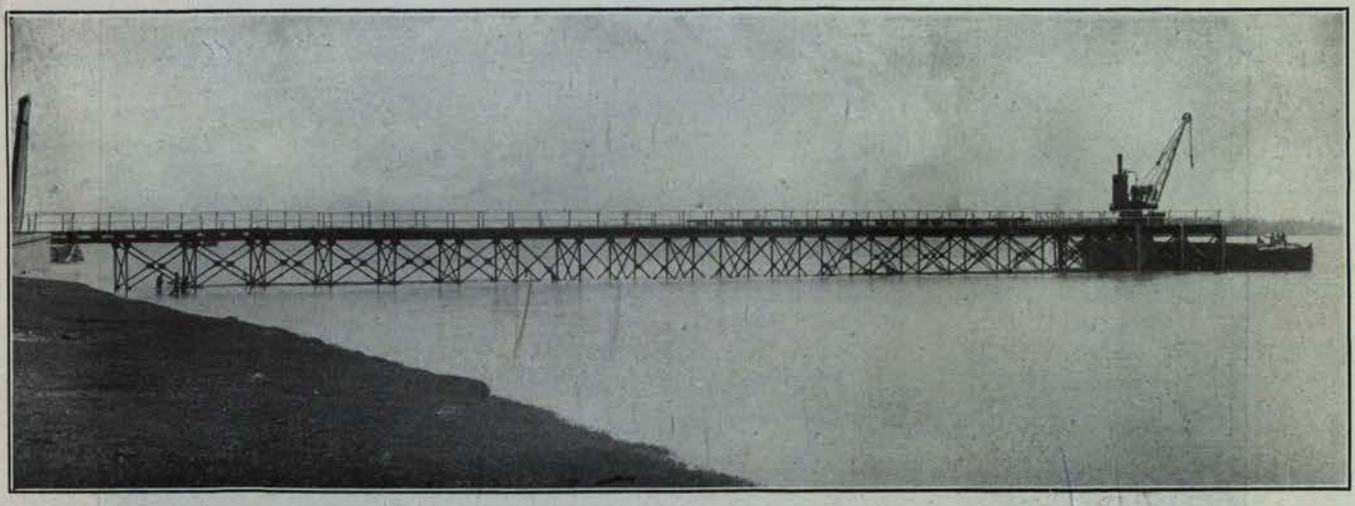


BENGAL-NAGPUR RAILWAY PONTOONS.
280′ × 40′ × 10.

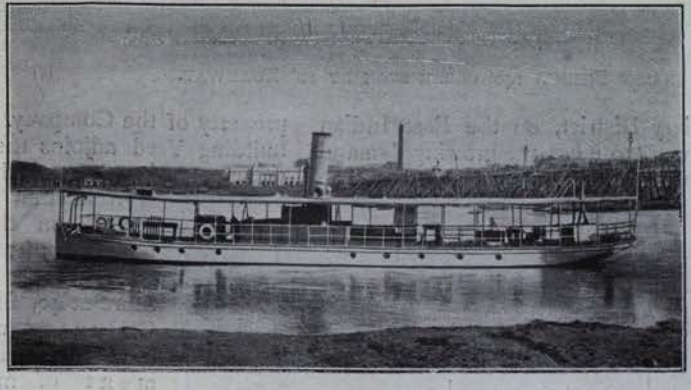


CARGO FLATS, ASSAM-BENGAL STEAMSHIP CO., LD.
200′ × 28′ × 9′ 6″.

JOHN KING & CO., LD.

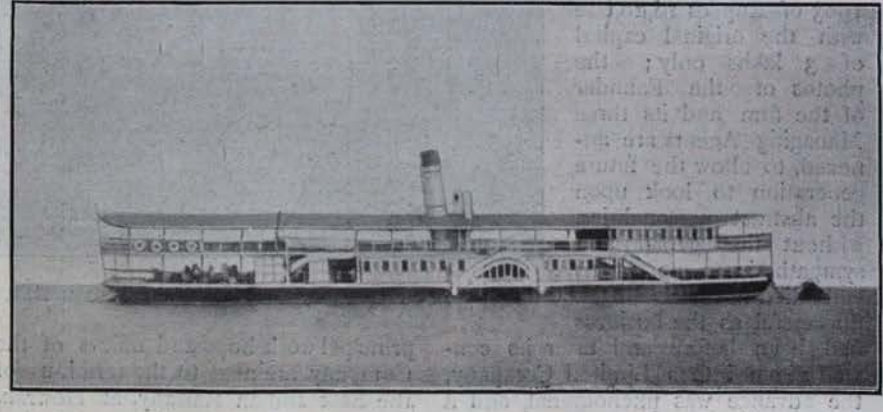


JETTY AT THE LAWRENCE MILL, BUDGE BUDGE. 260′ LONG.



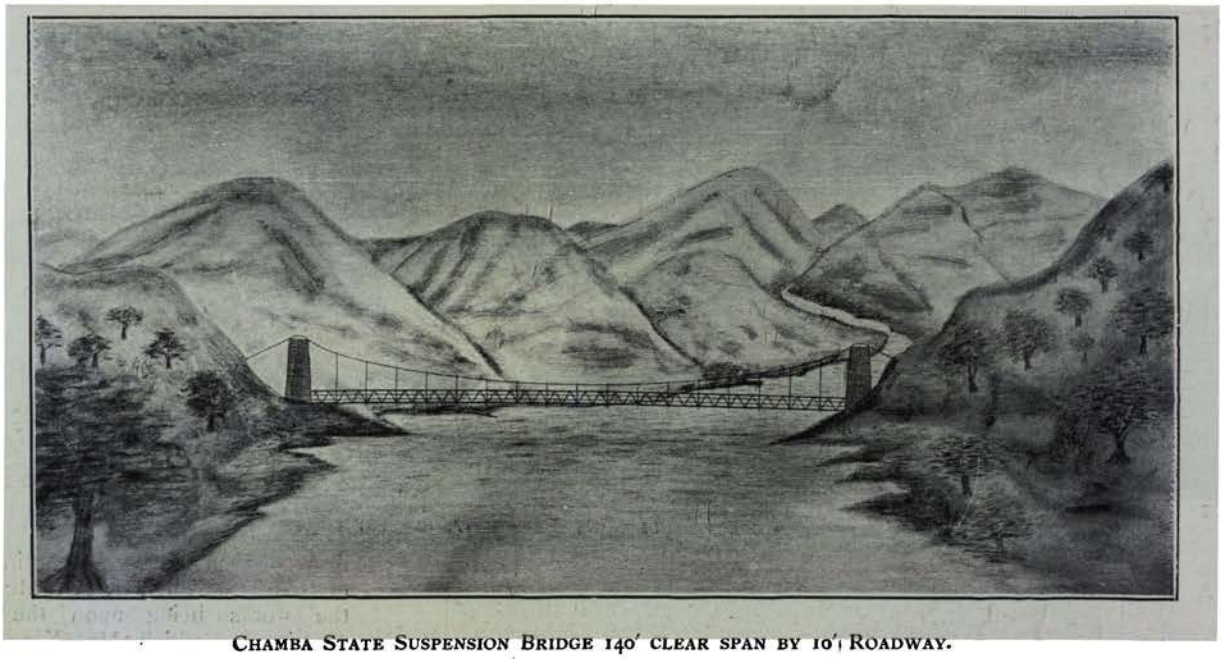
T. S. L. VIGILANT FOR PORT COMMISSIONERS AND T. S. L. PIONEER.

Messrs. JOHN KING & CO., LD., Engineers, Shipbuilders, Founders and General Contractors, also Importers and Machinery Merchants, Victoria Engine Works, Howrah, Offices, 40, Strand Road, Calcutta. Messrs. John King & Company, Limited, are among the largest and most important firms of Engineers in India. The firm was founded in the year 1865 by Mr. John King, of Paisley, who came to India in 1862, to join Mr. Hugh McLardy, of Greenock, as Manager of the Engineering Works, carried on by that gentleman, an Engineer of great reputation in those days. The present firm was practically a continuation of that established by Mr. McLardy, the works being upon the same premises to which Mr. King came to India as Manager. After the founding of Messrs. John King & Co., in 1865, the business was conducted by him, as a proprietary firm, for twenty-five years, till his death in 1890. In the latter year, it was converted into a Limited Liability Company, with Mr. John Clarke as first Managing Agent, who had previously been in partnership with Mr. King, and through whose manifest ability, the Company's business prospered. Upon the termination of his



PADDLE BOAT TARA FOR EAST INDIAN STATE RAILWAY. 192′ × 27′ × 8′.

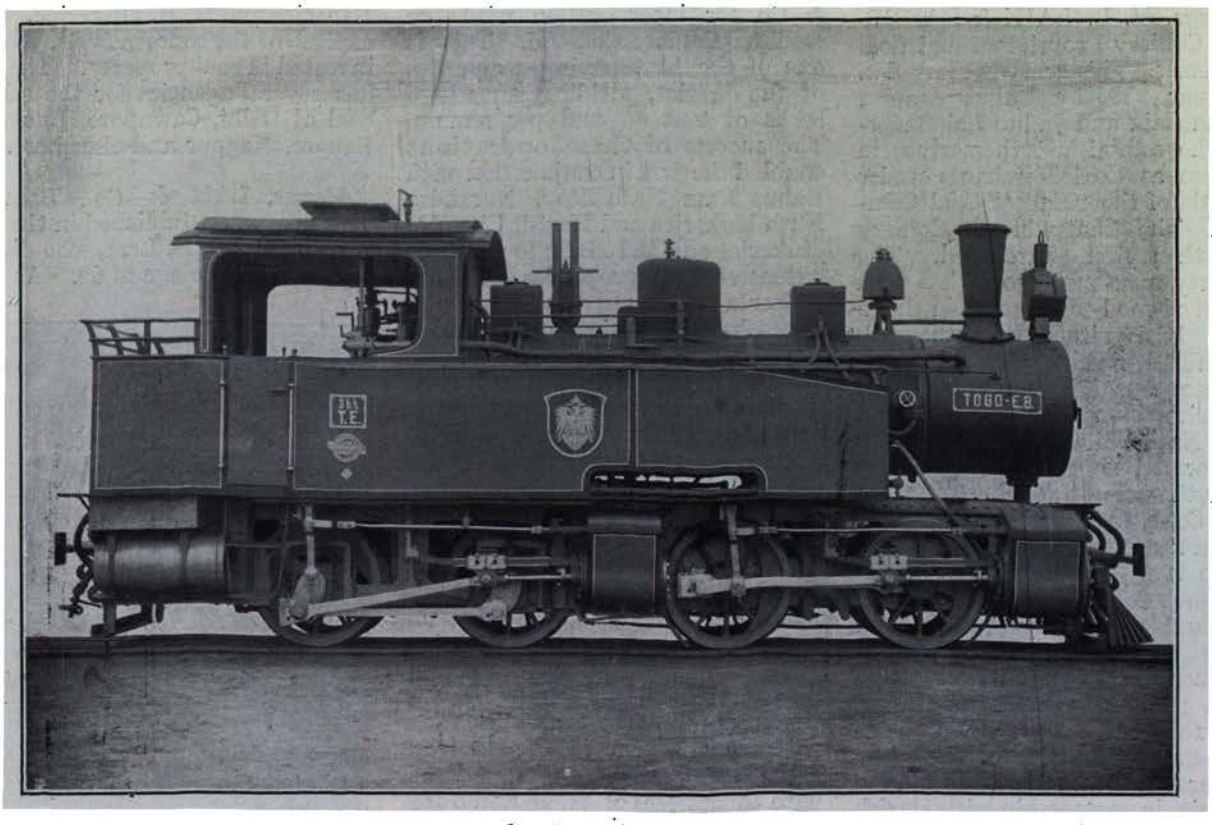
untimely career, Mr. Alexander Daw was appointed as Managing Agent, to which he brought an experience gained in the service of the former firm, and present Company, having risen from the position of Junior Assistant, to have full control: he retired in March 1903, and was succeeded by the present incumbent, Mr. James Muir, M.I. ENG. and SHIP., SCOT., and M.I.M.E., who has considerably extended the business of the Company, to a total turnover in 1905 of Rupees 16,10,000 with the original capital of 3 lakhs only; the photos of the Founder of the firm and its three Managing Agents are annexed, to allow the future generation to look upon the abstract personalities, without the genial and sympathetic expressions embodied in their natures. Successful as the business had been before and after its conversion into a Limited Company, the advance was phenomenal, and it was speedily found necessary to open Branches at Garden Reach, in the neighbourhood of the Kidderpore Docks, and also at Barrakur in the Colliery District, on the East Indian Railway, to meet the growing demand of its numerous customers. The principal workshops and offices of the Company are next to the terminus of the East Indian Railway, at Howrah, facing the Hooghly River, and immediately to the South of the Floating Bridge, the premises extending to about eleven bighas of land, which is the property of the Company. The Shipbuilding Yard adjoins the river, the principal entrance to the premises is from the Telkul Ghât Road, on the southern boundary; the Company also owns a very large Store at 40, Strand Road, Calcutta, where a very large and complete assortment of machinery is held. It may give some idea of the extent of the Company's business, to state the fact that, at their Victoria Engine Works alone, some 368 steamers, launches, flats, cargo boats, and other craft, have been launched since the foundation of the firm, 22 of which was built last year, varying in sizes from 200 ft. long to 75 ft. and may well be taken as an object lesson in "PATIENT EFFORT" supported by Faith, Truth, Justice and Charity, which the successors to the heredity should take into their hearts, with courage and fortitude.



CHAMBA STATE SUSPENSION BRIDGE 140' CLEAR SPAN BY 10' ROADWAY.

FOOT OVER BRIDGE FOR EAST INDIAN RAILWAY.

Messrs. ORENSTEIN & KOPPEL, Manufacturers of Light Railway Material, 4, Bankshall Street, Calcutta. The Calcutta House is a branch of the great German Company of the same name which was started in the year 1876 at Berlin, where the head-quarter offices are still established. Messrs. Orenstein & Koppel were amongst the first to introduce the system of light portable railways on a large scale and they now possess five up-to-date factories in Europe for the manufacture of railway plant and rolling-stock. They have also important locomotive works with a yearly output of 400 locomotives for broad and narrow gauge lines. Altogether the various works employ upwards of 2,500 workmen. The Calcutta Office was established in the year 1900, and is now under the joint management of Messrs. L. Rothschild and W. F. H. Bodstein. Extensive stocks of railway line and all accessories, rolling-stock and locomotives are held by the firm at Howrah Peelkhana. With characteristic German thoroughness Messrs. Orenstein & Koppel have studied the requirements of the various countries they supply, and, in the case of India, have brought out the most suitable patterns for the transport of every class of material specially suited to the needs of the country. Narrow gauge and portable railways, owing to the very great economy effected by their use, have made their way very rapidly in India and have been adopted by municipalities, mines, and mills as well as by the Public Works Department all over India. Messrs. Orenstein & Koppel have introduced many useful types of wagons and appliances in connection with their speciality for collieries, mills, tea estates, contractors' use and other purposes. Their so-called "Fireless" Locomotive for mills and godowns to minimise risk of conflagration, and their Hill Railway Engines with movable axles are cases in point. Among the installations of railways due to this firm are the 26 miles of line for the Maharaja of Mourbhanj, the Light Railway from Baripada to Mourbhanj, the well-known Cochin Forest Tramway, which has been fully equipped by this firm's rolling-stock and locomotives and also the whole track, passenger and goods wagons and locomotives have been supplied to the Matheran Light Steam Tramway now under construction. But though very prominent in this line, Messrs. Orenstein & Koppel do not confine themselves entirely to railway material. They also manufacture Dredging Plant and every description of Signalling Apparatus. They are Agents for the "Humboldt" Engineering Works Company, of Cologne, one of the best firms of manufacturers of machinery, and also for Rud. Sach's agricultural implements. The London office of the Company is at Bush Lane



A LOCOMOTIVE.

House, Cannon Street, E. C., under the management of Mr. Ph. Deutsch, who conducted the Calcutta business for several years. Their Portable and Light Railways for agricultural and industrial purposes have made their way all over the world and to keep in touch with their vast business Messrs. Orenstein & Koppel have opened some 30 branch offices in the principal countries at London, Hamburg, Paris, Cairo, Sourabaya, Alexandria, Johannesburg, Durban, and many other cities.

Messrs. M. L. LAIK & BANERJEE, Colliery Proprietors and Coal Merchants. This firm was started in the year 1886 by Babus Ambica Charan Laik and Jadub Lal Banerjee, who established themselves in business as Coal Merchants under the title of the "Laik" Coal Company. The Chattodhemo Colliery was then first purchased. The property measured 130 bighas with a seam of good coal 22 feet in thickness. It is situated in the well-known Dishergarh Coal-Field. This purchase was effected in partnership with Ram Charn Mondol and Ram Nath Roy, and a Company was formed to work the property under the title of the Chattodhemo Coal Company, the original Laik Company acting as managing agents to the new company. The Chattodhemo Colliery has turned out a valuable property and is still giving an output of 2,400 tons per mensem at a market value of Rs. 3-8 to Rs. 4-4 per ton. In the year 1888, the Laik Coal Company extended their operations by the purchase of another colliery, the Begunia, in partnership with Harish Chandra Mukerjee. This colliery contained some of the best coal in the Burrakur group, having an area of some 200 bighas and a seam 8 feet in thickness. The Begunia Colliery was carried on with the Laik Coal Company as managing agents under the style of the Madhuban Coal Company. This Colliery has now been worked out and yielded during the period in which it was productive no less than 500,000 tons of good coal fetching rates from Rs. 2-8 to Rs, 4 per ton. As they progressed in prosperity the firm continued to buy up coal properties, and in 1893 acquired Lodhna and Pudhyodi Mouzahs in the Jherriah Coal-Field and formed a Company, the Jherriah-Lodhna Coal Company to work the same. This was a larger venture, the colliery possessing 1,200 bighas of coal-bearing land. Having developed its resources the firm sold the colliery to Messrs. Turner, Morrison & Co. who have converted it into a Limited Company under its former name. Another colliery, the Madhuban, soon after came into the hands of the firm in partnership with Babu Harish Chandra Mukerjee which they also sold to Messrs. Turner, Morrison & Co. for incorporation with the Lodhna Colliery Co., Ld. This is one of the best paying properties of the district, yielding some two lakhs of tons of coal per annum. The success of these operations enabled the firm in conjunction with Babus Ram Nath Roy, Narendra Nath Mukerjee and Harish Chandra Mukerjee and M. L. Laik to purchase extensive coal properties at Khas Jherriah, Benahir and Hariladih Mouzahs which they formed into a Company under the name of the Khas Jherriah Coal Company. These mouzahs are 1,132 bighas in area and contain the best coal in the Jherriah Coal-Field. When opened for work the collieries were acquired on a sub-lease by Messrs. Heilgers & Co., who are working them as a Limited Liability Company under the style of the Standard Coal Company, Ld. The next venture of the Company in partnership with Babus J. L. Banerjee, M. L. Laik and Shiborani Debi, was the purchase of the Surator Colliery containing three well-known seams in the Jherriah Field known as Nos. 13, 14, and 14a, with thicknesses of 35, 28 and 8 feet respectively. This property has not been alienated by them, but is being worked by Messrs. Laik and Banerjee, to which designation the original Laik Company was altered about this time. The Surator Colliery yields at least 36,000 tons of steam coal per annum at a market value of between 2 and 3 rupees. Another colliery came into the hands of Messrs. Laik and Banerjee in the year 1900, the Fularibad, which also is still being worked by the firm yielding 1,800 tons of coal per mensem at a value of Rs. 2 to Rs. 2-12 per ton. The firm next acquired another property containing about 1,000 bighas of seams Nos. 17, 18 and also 13, 14 and 15 at workable depths. This they made over to Messrs. Heilgers & Co. Other coal properties in the hands of the firm are the Bhulanbarrie, Lahurka, Noonudi and Arolgoria and Kantapahari, about 4,000 bighas in all, containing seams Nos. 15, 16, 17, 18 and 10. Bhulanbarrie and Lahurka are in working with an output of 8,000 tons per month. The firm was altered to its present style of Laik and Banerjee in the year 1900, the present partners being Babus J. L. Banerjee, M. L. Laik, K. K. Adhikari, S. K. Banerjee and N. N. Mukerjee. The capital of the concern is Rs. 300,000 invested in coal property. The firm has several agencies for the sale of coal at Delhi, Cawnpore, Lucknow, Lahore, Nagpur and elsewhere.

Messrs. LAM & Co., Bombay. This firm was established in the year 1880 by Mr. D. B. Lam, who died in May 1906 at the age of 62. As soon as the firm was established, it secured the sole representation of one of the largest manufacturers in France, namely, that of Mr. Maurice Schuster, for silk and gold goods of all description. Later on, his two sons, S. D. Lam and P. D. Lam, joined the firm as partners, and the business was extended considerably. At the present moment it has a large establishment for various

Mr. S. D. LAM.

departments. First, all kinds of piece-goods imported from Manchester, Bradford, and the Continent, and sundries and hardware goods from England as well as the Continent. The firm is also interested largely in cotton which they export chiefly to Japan. In the year 1905, the firm having obtained a concession from the Native State of Porebunder erected the first Cotton Press there. The State which raises a large quantity of cotton is situated near the sea-coast from which the cotton is shipped direct to Bombay.

The Indian Manganese ore trade having, in consequence of the troubles in Russia, received a great impetus, Messrs. Lam & Co. were the

Mr. P. D. LAM.

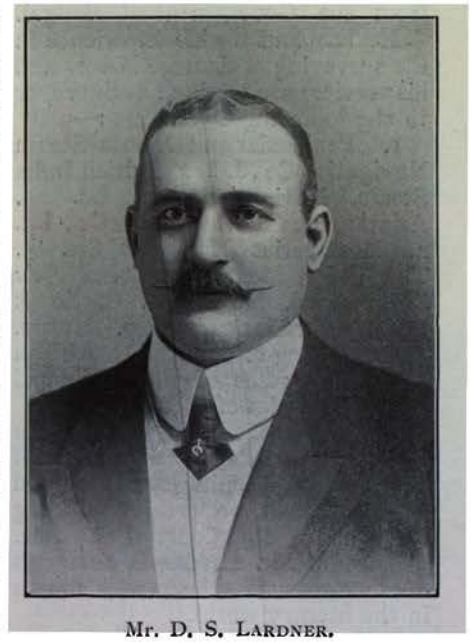
first firm to realize the importance of this development, and were successful in acquiring some of the valuable ore fields in Portuguese India.

These they have, in conjunction with the Government, developed to a very large extent, and have been followed in their enterprise by many other Bombay firms.

The firm exports very large quantities of manganese ore to all the ports of Europe.

Messrs. LAMPARD, CLARK & Co., Merchants, Calcutta. This firm is one of a group of concerns placed in various parts of the world, affiliated with the well-known English firm of Harrisons & Crosfield; their business chiefly consisting in operations in tea and other tropical produce. The principal interests of Messrs. Lampard, Clark & Co. lie in tea, of which they are large buyers at the local auctions and which is shipped to all parts, and disposed of through the firm's numerous agencies established in connection with it wherever tea is consumed in any important quantities. While engaged in shipping tea in all directions, they are intimately associated with the American and Canadian markets. The parent English firm of Harrisons & Crosfield was established nearly a century ago, its first locality being Liverpool, where Mr. Daniel Harrison started operations at first alone, and subsequently in partnership with Messrs. Joseph Crosfield and Smith Harrison. The importance which the firm gained in the commercial world necessitated a removal to the metropolis, and, accordingly, in the year 1840 the change of quarters was effected, and the firm opened in London at 3, Great Tower Street; premises which have been continuously occupied by them ever since, having been rebuilt a few years after the first occupancy to suit the needs of the business. Mr. Charles Harrison, the present senior partner, is the youngest son of the original founder of the concern, and has been an active partner in the firm for more than 50 years. The other present partners are J. B. Crosfield and Geo. Theodore Crosfield, sons of Joseph Crosfield; C. Heath Clark and Arthur Lampard, who have held this position some 15 years. The Colombo firm is styled Crosfield, Lampard & Co., and business is carried on there in much the same style as in Calcutta, but in a wider range of produce: tea, cocoanut, cocoa and rubber estates being owned and managed by the firm. The Colombo branch is a very important factor in the commercial life of Ceylon. In Montreal, New York, and Chicago, the firm possesses establishments of its own carried on under the style of Crosfield, Lampard, Clark & Co. In addition to tea the firm deal in all tropical produce, the products of India, Ceylon, and the Federated Malay States, etc. The success of its dealings is largely due to the spirit of enterprise which marks its operations. The Manager of the Calcutta firm is Mr. Cecil Simpson assisted by Mr. E. H. Townend.

Mr. DIONYSIUS STANISLAUS LARDNER is the third son of the late John Joseph Lardner, Staff Officer, at the Tower of London, and Woolwich Dockyard, who was serving in the Control Department, with the rank of Major, at the time of his death in 1875. His father's services were well known at the War Office, and his advice regarding the equipment of troops proceeding abroad was much valued.



Mr. D. S. LARDNER.

Mr. D. S. Lardner was born on September 6th, 1861, in the Tower of London, in a house adjoining Queen Elizabeth's Palace, in which his parents lived from 1857 to 1868, when his father was transferred to Woolwich. Whilst residing at the Tower Mr. Lardner remembers the threatened attack of the Fenians on the Tower, the troops remaining by the guns, at the battery, situated directly at the back of their house, throughout the whole of one night.

Mr. Lardner also recalls the sincere friendship existing between his father and a late Viceroy of India, the Earl of Northbrook, who was a regular visitor to their home at Woolwich, in connection with affairs at the War Office.

Mr. D. S. Lardner was being educated for the Navy, but, owing to monetary troubles on his father's death, he entered the Merchant Service. He began his career at sea in September 1877, joining an old Tea clipper sailing ship at London as Midshipman apprentice, and was fortunate enough to obtain command of a Government emigrant vessel nine years later in 1886. He retained his command until 1896, when, owing to his failing to obtain certain concessions from the Marquis of Ripon at that time Colonial Secretary, he resigned and settled in Calcutta, where he passed his examination as a fully qualified Marine Surveyor, and obtained a certificate to act as such from the Government of Bengal.

He has had a wide experience in the surveying of damaged cargo and his services are retained as Surveyor to the following Companies :—

1. Peninsular and Oriental Steam Navigation Co., Ld. 2. British India Steam Navigation Co., Ld. 3. Asiatic Steam Navigation Co., Ld. 4. Messageries Maritimes Cie. 5. The Union Steamship Co. of New Zealand. 6. Messrs. A. Currie & Co.'s Australian Line. 7. Messrs. Bullard, King & Co.'s South African Line, and some of the principal Coal Companies of Bengal.

He has also sat during the past ten years as a member of the Courts of Enquiry into shipping casualties, and as a nautical expert in shipping cases, in the High Court of Calcutta.

Many of Mr. Lardner's ancestors are men that have been well known in the literary world.

Reverend Richard Lardner, D.D., died January 17th, 1740, aged 85 years. Richard Lardner, Counsellor at Law, died April 1733. Reverend Nathaniel Lardner, D.D., who died on the family estate at Hawkhurst in Kent, July 24th, 1758, the author of several theological works, and buried in the then well-known Tindal's Burial Ground, Bunhill Fields, London.

Dionysius Lardner, D.C.L., of London, a well-known Doctor of Science, was Mr. Lardner's uncle, after whom he was named. He was known in the literary world by his volumes of the Museum of Science and Art. He died in 1859. The present Solicitor-General at the Cape of Good Hope, Henry Lardner Burke, LL.B., M.A., of Lincoln, Oxford, K.C., is a great authority on literature and is a cousin of Mr. Lardner.

Mr. Lardner is a Member of the Constitutional Club, London, and also of the Institution of Naval Architects.

Mr. CHAS. FREDERICK LARMOUR was born in Calcutta on 27th August 1852. In 1860 he went to England, where he was educated. After spending some time in Germany he

Mr. C. F. LARMOUR.

returned to Calcutta in 1869, and entered the business of Messrs. C. Lazarus & Co., of which he is now joint proprietor with his brother, Mr. F. A. Larmour. Although Mr. Larmour has found the demands of business too exacting to devote much time to public life, he has made opportunity to interest himself in the Calcutta Trades Association of which he is one of the oldest members. In 1885 he was elected to the position of Master of the Association. In 1904 he was nominated by the Lieutenant-Governor of Bengal to a seat on his Council. Mr. Larmour has acted as a representative of the Calcutta Trades Association to the Calcutta Port Commissioners. He is a Director of the General Family Pension Fund, and also a Director of the Bengal Bonded Warehouse Association. For many years, Mr. Larmour was an active Volunteer. He held a commission in "F" Company of the Calcutta Volunteer Rifles, finally resigning in 1898.

He has been long connected with Freemasonry in Calcutta. He has three times been Master of his Lodge, and is a Member of the 30th Degree. He has the distinction of being a Past Grand Warden in the District Grand Lodge of Bengal. This makes up a fairly considerable array of public services in spite of the cares of a large business, that has been established for 85 years.

Mr. Larmour has devoted a good deal of his leisure to the absorbing hobby of stamp-collecting. He is also an enthusiastic collector of rare china and porcelain, and possesses a valuable collection. Mr. Larmour is an Honorary Presidency Magistrate, and is the oldest Past Master of the Calcutta Trades Association in India.

Messrs. PRAWN KISSEN LAW & Co., Merchants and Zemindars, 8, New China Bazaar Street, Calcutta. This firm is one of old standing, having been founded by Babu Prawn Kissen Law, the son of Babu Rajib Lochan Law. Prawn Kissen began life without much backing in the shape of money or influence, his family not being rich. This was in the first half of the nineteenth century when educational advantages in India were not so advanced as they are now. Still Prawn Kissen contrived to acquire a good working knowledge of the English language and obtained an appointment as head writer in the office of one of the leading attorneys of the old Supreme Court. By diligent and faithful service he gained the esteem of his employer, and when the attorney retired from business he granted Prawn Kissen a pension in gratitude for his meritorious service, which continued till the death of the donor. Prawn Kissen had commenced speculations in East India Company's paper, Salt and Opium, but with little success. At this period a welcome windfall came his way in the shape of a third share in a lottery prize of a lakh of rupees. Babu Mutty Lall Seal, a famous Hindu business man of those days, was attracted to Prawn Kissen by his energy and business abilities and stood his best friend, taking him into his service and procuring for him a position as banian to an important mercantile firm. Assisted by his brother Sree Kissen, he rapidly advanced, securing a like position with other firms and finally starting

commercial operations on his own account. In 1839 we find Prawn Kissen conducting a firm of his own, carried on under the style of his own name. The year of disaster to so many commercial institutions at Calcutta, the black year 1847, hit Prawn Kissen Law with great severity, but the old business-man managed to weather the storm which sent so many others under, and he conducted his business as a flourishing concern till the year of his death, 1853. The style was then changed to Prawn Kissen Law & Company, and the business was carried on by Sree Kissen Law and Durga Charn (afterwards Maharaja), Sham Charn and Joy Gobind, the three sons of Prawn Kissen, and his nephew Bhagobatty Charn Law. The brother and nephew soon after died, and the three sons of the founder carried on the business with marked skill and ability. The affairs of the concern prospered more than ever under the new management, and the foundations of the present great business were laid securely. Their speculation in Port Canning shares yielded them a large profit. Business in general merchandise was added to the original financial operations of the Company, and an import and export business grew up under the management of the firm. Babu Durga Charn Law, the most eminent of the three brothers, attained the title of Maharaja and was appointed a Companion of the Indian Empire. It is generally to his commercial skill that the great operations of the house in landed properties, Zemindary, Government paper, besides banianship and commercial ventures on their own account have proved a regular gold mine to Prawn Kissen Law & Co. All the previous generation of partners are now deceased and the present proprietors of the firm are the Maharaj Kumars Kristo Das Law and Rishee Case Law, sons of Maharaja Durga Charn Law, C.I.E., Babu Chundy Charan Law, son of Sham Charn Law, and Babu Ambica Charn Law, son of Joy Gobind Law, C.I.E.

Maharajah DOORGA CHARN LAW, C.I.E., son of Babu Prawn Kissen Law, the founder of the firm of Prawn Kissen Law & Co., was born at Chinsurah on the 23rd of November 1822. After receiving primary instruction at private schools, his father placed him at the Hindu College where he remained till the age of 17. As he was intended for commercial pursuits, although he had acquired some distinction at College, he was withdrawn to receive training in business and to act as his father's assistant in the business which had recently been opened. He remained with his father's firm for fourteen years gaining experience and being inducted by his parent into every description of commercial pursuits. Prawn Kissen Law died in 1853 and Doorga Charn had by that time thoroughly fitted himself to take charge of every department of the firm, whose style and title was then changed to Prawn

The late Maharajah D. C. Law.

Kissen Law & Co. Doorga Charn combined an uncommon aptitude for business with principles of the strictest probity. In carrying on the firm established by his father, he raised its status immensely in every respect. It grew greatly in wealth under his management, and the advance in prosperity was accompanied by an increase in reputation, so much so that Doorga Charn became a man marked by Government for confidence. He was frequently consulted by Government in matters of administration. A part of his life was devoted to public affairs and he was singled out for the honours of Justice of the Peace and Honorary Presidency Magistrate. He was distinguished as being the first Native member appointed amongst the original members of the Calcutta Port Commission. Still further honours awaited him, and in 1874 he was appointed a Member of the Bengal Legislative Council, and at about the same time a Member of the Senate of the Calcutta University. In the year 1888 he was elected a Governor of the Mayo Hospital. Doorga Charn Law's great knowledge of public affairs fitted him for still higher posts, and the greatest honour which the Government of India can bestow on a non-official was his in 1882, when he was appointed a Member of the Imperial Legislative Council. He held this honour twice, being again appointed in 1888. Other marks of distinction did not fail him; he was made a Commissioner for the reduction of the Public Debt, and served as Sheriff of Calcutta. In 1884 he was made a Companion of the Order of the Indian Empire. This honour was followed up in 1887 when the title of Rajah was conferred upon him, and again in 1891 when the higher title of Maharajah was given to him. He was twice President of the British Indian Association. Maharajah Doorga Charn Law was public spirited in his benefactions. He founded several scholarships and free studentships in the Presidency College, Hindu School, and Hooghly College, by means of a gift of Rs. 50,000 to the Calcutta University. And among his many benevolent donations may be mentioned Rs. 24,000 to the District Charitable and Subarnabanik Charitable Societies and Rs. 5,000 to the Mayo Hospital. He was many years President of the Native Committee of the District Charitable Society. In 1892 he received the honour of exemption from personal attendance at Civil Courts. His public life practically ceased in 1894, and for the remainder of his days owing to health enfeebled by his great exertions in both private and public business he was unable to take active part in affairs. He died on the 20th March 1904, having attained a ripe old age and reaped a large share of honours. He left two sons, Maharaj Kumars, Kristo Das Law and Rishee Case Law, who were trained and were in charge of his business when he died.

SHAM CHARN LAW, the son of Prawn Kissen Law and brother of Maharajah Doorga Charn Law, was born in 1825, and was thus the junior of the Maharajah by some three years. As with his brother he passed through the Hindu College with some distinction, obtaining a scholarship. But he also was intended for commerce, and at the age of nineteen he joined his father as an assistant in his business. Trained in the sound business school of his father, Sham Charn showed no less aptitude for commerce than his elder brother, and ably assisted the latter in establishing and improving the position of the firm of Prawn Kissen Law & Co., after the death of the founder of the firm. In the year

The late Babu S. C. Law.

1869 Sham Charn visited England to improve and extend the relations of the firm in that country. He was the faithful companion and coadjutor of the Maharajah in all the operations undertaken by the firm, and it was equally due to his great business instinct and commercial probity that the transactions of the firm reached such remarkable success. The esteem in which Babu Sham Charn was held in commercial circles is shown by his appointment, which he held for several years, as a Director of the Darjeeling-Himalayan Railway Company. A still greater mark of appreciation was contained in his appointment as a Member of the Consultative Committee of the East Indian Railway Company which was formed during the Strachey Administration. In the Suburban Municipality of Calcutta, to which he was several times appointed and re-appointed as Commissioner, he established a high character for ability and usefulness. Government honoured him by appointing him an Honorary Presidency Magistrate and Honorary Magistrate of the 24-Parganahs. He was a Member of the District Board for some years. Sham Charn Law's disposition was as benevolent as that of his brother, and the distribution of the charity fund of the family was always a source of great interest to him. His greatest charitable work was his donation of Rs. 60,000 for a building for the Eye Infirmary, which till then had no local habitation. The foundation-stone of this building was laid by the Marchioness of Lansdowne. Babu Sham Charn Law died in 1891, at the age of 65, leaving behind him one son, Babu Chandy Charn Law, whom he had trained up in his own line of business.

JOY GOBIND LAW, C.I.E., born on the 1st January 1836, was the youngest of the three sons of Prawn Kissen Law. He was still a student in the Hindu College when his father died, but as soon as he had concluded his studies, he was taken in by his brothers as a partner in the firm of Prawn Kissen Law & Co. Joy Gobind did his part in the management of the firm's interests well and was associated with his brothers in advancing its interests so remarkably. He was of a retiring disposition with a great bent towards horticulture, and his leisure was devoted to the cultivation of rare plants. At shows and exhibitions he was repeatedly asked to perform the function of judge, and these invitations he accepted, acquitting himself to the great satisfaction of the competitors. Nevertheless he was an able business man and his abilities were widely known in public life. For nearly thirty years he was a Municipal Commissioner for Calcutta. In this he earned the respect of his colleagues to such an extent that on his death they passed a special resolution expressing their appreciation of his character for zeal and energy in the public cause. He was made Sheriff of Calcutta in 1895, and in 1897 elevated to the position of Member of the Imperial Legislative Council. He was elected to serve as representative of the Calcutta Municipality on the Bengal Legislative Council in 1901. He received the honour of a Companionship of the Order of the Indian Empire in the year 1899. He was an Honorary Magistrate, a Port Commissioner, a visitor of the Presidency Jail, and a Governor of the Mayo Hospital, and also a Member of the East Indian Railway Consultative Committee, performing these multifarious duties for many years with considerable distinction. He was a leading member of the British Indian Association,

The late Babu J. G. Law.

and for some time Vice-President of that body. He was President of the Bengal National Chamber of Commerce, and as a member of the Bengal Chamber of Commerce his services are set forth in appreciative terms in the resolutions passed by both those bodies at the time of his death. In common with his brothers, he displayed a most charitable disposition. He was President of the Subarnabanik Charitable Society and his munificent donation of Rs. 1,00,000 in Municipal Debentures for the relief of persons suffering from famine, inundation and similar causes in Bengal, Behar and Orissa, was a well-chosen benefaction. He contributed Rs. 15,000 for

the erection of a Laboratory at the Zoological Gardens, a useful public work. His death occurred on 8th December 1905. He left an only son, Ambica Charn Law, trained to the business so ably established by his father, his brothers and himself.

Messrs. W. LENNOX & Co., 50, Tindal Garden Road, Howrah.—This firm carries on the business of manufacturers of Asbestos composition known as the "Lennox Asbestos" composition. The business was founded in the year 1905 by Mr. W. L. Harwood. Mr. Harwood has installed the newest machinery run by a steam plant. The firm employs three Europeans, assisted by a staff of natives. They are doing a considerable business in their specialities throughout India, Burma, and Ceylon. The "Lennox Asbestos" compositions manufactured by the firm are well known for their efficiency in covering boilers; cylinders; steam, feed and water pipes; tanks; heaters; steam coppers; vacuum pans; and the like. The composition contains the best non-conducting mediums known, asbestos and mica. The adhesive properties of this composition have been proved to be greater than any yet produced in the market, by a severe test on jetty vertical crane boilers, the vibration of which no other composition of the kind could withstand. Messrs. W. Lennox & Co. also carry on business as manufacturers of lubricating mica powders for bearings, shaftings, and axle boxes; crushed mica for packing of bulkheads of steamers, ice chests, and other insulating purposes; mica globes, chimneys, and chimney protectors, lamps and lanterns fitted with mica; mica boxes of all descriptions; also all kinds of tinware dairy requisites, canisters, boxes, etc. Mr. Harwood, the proprietor of the business, was born in Bengal. He was brought up to the profession of mechanical engineering and employed in H. M.'s Mint at Calcutta for a period of 5 years, which post he left to establish his present business.

Messrs. W. LESLIE & Company, Hardware and Metal Merchants, Engineers and Contractors, Calcutta. Founded in December 1890 by Mr. William Leslie. This firm has, from a small beginning, rapidly grown until it is the largest mercantile house engaged in the hardware and metal trades in India. From the rather unpretentious premises first occupied by Messrs. W. Leslie & Company have since sprung up commodious offices, show-rooms and ware-houses until now two of the largest buildings in Chowringhee (the finest street in Calcutta), are occupied by this well-known firm, and even yet further extensions are being made to accommodate their steadily increasing business. The remarkable progress made in fourteen years is a subject of fascinating interest and should be a lesson to young men in trade and commerce; it is an indication of character and of personality, energy, and enterprise.

Mr. W. LESLIE.

For the engineering and contracting branch of their business, they occupy spacious premises at 60, Dhurrumtollah Street, having established there large works. This firm employ some six hundred hands in manufacturing tanks, cisterns, latrines, roofings, blacksmith's tools, cast iron staircases, gates, railing and fencing, also workers in copper, brass and sheet steel, and here also they have an extensive carpenter's shop well fitted in all respects to meet the requirements incidental to the business of contractors. This factory is a little over three bighas in extent and has a street frontage of over 220 feet where they have just erected a handsome three story building. Their show-rooms in Chowringhee are filled with a large and varied stock of hardware, and the catalogue issued by them is necessarily a bulky volume of some 600 pages, of great use to Engineers, Contractors and Manufacturers up-country; giving them much useful information as to prices, qualities, etc., and has secured to this enterprising firm a large constituency in the Mofussil. Amongst the many novelties brought by Messrs. W. Leslie & Co. before the public in India, American goods form an attractive feature, and in this branch the firm holds the leading place, and they have introduced many articles of household, garden, and agricultural utility, which are now highly appreciated throughout the country. The bicycle as a means of locomotion has received special attention by this firm, and they are the largest importers of these machines in India. Latterly the introduction of the Motor Car into India has induced them to add a department specially devoted to this industry. Messrs. W. Leslie & Company represent in India many of the leading English and American Manufacturers in the hardware, metal, and allied trades, amongst whom may be mentioned Messrs. James Hinks & Sons, Sorby & Sons, Dorman Long & Co., Ltd., The Waverley Iron and Steel Company, Hadfields, Limited, Lockwood Brothers, Ltd., Nettlefolds, Ltd., Haywood, Taylor & Sons, James Cartland & Sons, The Hardy Patent Pick Co., The American Trading Co., G. & J. Hall, &c., &c., and the firm is closely connected with the chief hardware marts of the world, having its own offices at Sheffield, England, and Broad St., New York City. The other partners in the firm are Messrs. P. I. McInnes and J. M. L. Leslie.

Mr. William Leslie, the founder and head of the firm, was born in the year 1855 in Berwickshire, Scotland, and came to Calcutta in 1877 to the firm of Messrs. T. E. Thomson & Company, and was in their service for thirteen years until he started the present firm. From the date of

his arrival in India Mr. Leslie has been an active member of the Calcutta Volunteer Rifles, retiring in 1903, after 26 years' service, with the rank of Captain and the V. D.

In motoring Mr. William Leslie takes a great personal interest, and as the owner and driver of his "Lanchester" English-built car, had the satisfaction and honour of winning the Bengal Reliability Trials on their first inauguration in February 1905; the test being the run from Calcutta to Asansol and back, 276 miles, thus securing the first prize and Cup.

The entire management of this firm's business is in the hands of Mr. William Leslie, and he visits the home market annually, thus enabling him to be always up-to-date, and in touch with the latest development; and to his enterprise and unremitting personal attention to all details, the firm owe the high class reputation and position it has obtained.

Mr. William Leslie married in 1882 and his family consists of five children; the eldest, Mr. Mark Leslie, is a partner and is in Calcutta; his second son, Mr. Kenneth Leslie, is articled to a firm of Chartered Accountants in Sheffield, and has already successfully passed his intermediate examination. The third son, Mr. Colin Leslie, is a student of the Electrical Standardizing, Testing and Training Institution, London; so that all are following professions in sympathy with the Calcutta business.

LIPTON Limited.

Sir Thomas Johnstone Lipton, *Bart.*, K.C.V.O., the founder of this world-wide business, was born in 1850, in Glasgow, Scotland; his father and mother being Irish, coming from Clones, Co. Tyrone, whence they emigrated to the prosperous go-ahead Scotch city, and carried on a small provision business there. He commenced life at the bottom of the ladder, starting his business career, when but nine years of age, as an errand boy on 2*s.* 6*d.* per week, but whilst thus actively engaged during the day, he did not neglect his studies, as he regularly attended evening classes for some years afterwards. At fifteen that buoyant enterprise and indescribable energy, so characteristic in after years, made themselves manifest, and hearing of the possibilities of America he decided to test them for

Sir THOMAS LIPTON.

himself. Arriving as a steerage passenger in New York in 1866, he stayed there for about a month, and then went West, to South Carolina, where he worked in the rice plantations. Mr. Lipton's earliest trip to America was not financially a great success, though valuable from an educational point of view, and he received a good commercial training there, which was of much use to him in after life. Returning to Glasgow he decided on starting in business in the provision line on his own account, and in 1876 rented a modest little shop in Stobcross Street in that city, and from this small beginning has since sprung up the enormous business which has been bought by a Company for two and a half million pounds sterling twenty-two years after initiation. The phenomenal success which has attended Sir Thomas Lipton's commercial career may be ascribed to his indefatigable energy and perseverance, to the efficacy of bold and original advertising, and to two main principles which have guided him in his business relationships, the first being "never to take a partner," and the second always to decline a loan. As regards the former, it was at one time put about as a well authenticated fact that the redoubtable Parliamentary orator Mr. Biggar was a sleeping partner in the business, but this rumour had no foundation of truth in it, Sir Thomas Lipton being the sole proprietor of the business until he sold it to the Company in March 1898. An instructive phase of Sir Thomas Lipton's business dealings has not only been the judgment exercised in selecting men, but also the fair treatment they have received at his hands. On several occasions he has triumphantly referred to the

LIPTON'S OFFICE IN THE BUILDING OF THE STANDARD LIFE ASSURANCE COMPANY.

fact that no "strikes" ever disturbed the harmony of his relationship with his employees. But probably the best indication of good feeling between employer and employed, is the fact that to-day his fellow-directors and many of the chief officials and heads of departments were with Sir Thomas at Glasgow or elsewhere in the early days of the firm, and are now enjoying a share in its general prosperity. Like so many men at the top of the tree, Sir Thomas has been asked for his recipe of success, and in reply he gives the following axioms. "Work hard, deal honestly, use careful judgment, do unto others as you would be done by, advertise freely and judiciously, give sound sterling value, and success is bound to follow." In 1889 the rapid expansion of the business necessitated the removal of Sir Thomas Lipton's head-quarters to London, where he established offices and warehouses in the City Road. In Bermondsey is the preserve factory, in Shadwell the wine and spirits vaults, in Old Street the coffee roasting factory, fruit gardens in Kent, and centres in Scotland and Ireland; whilst abroad there are warehouses and offices in Chicago, Colombo, Calcutta, Malta, St. Petersburg and Moscow; tea, cocoa and coffee plantations in Ceylon; a network of branches and industries which practically touch the three Continents of Europe, Asia and America.

In recent years no industrial undertaking has been more successfully floated as a Company than "Lipton Limited." The public knew the history and had watched the growth of the business, recognised the probity and shrewdness of its proprietor, and were anxious to possess a share in the concern. A capital of two and a half million pounds sterling was required, and no less than forty million pounds sterling was readily offered; truly a record in Company floating.

The transference to the Company, whilst loosening somewhat the chains that bound Sir Thomas so tightly to his desk, did not liberate him entirely. He was not content with a sleeping partnership; not only did he maintain a large holding in the firm but he remained its controlling spirit. International interests, as we shall see, have since arisen to demand a considerable share of his time and energy, but only a slight experience at head-quarters is sufficient for one to recognise the fact that he still keeps his hand on the machine and regulates its pace. In the same year Sir Thomas received the honour of Knighthood at the hands of Her late Majesty Queen Victoria, and other social honours have followed, and his Knighthood has since become a Baronetcy. Sir Thomas Lipton's private residence is Osidge at Southgate, one of the few old-fashioned residences surviving the growth of greater London.

In 1889 Sir Thomas was first induced to go into the Tea trade, his first purchase being no less than 20,000 chests of this commodity, and since then Lipton's Teas have become renowned throughout the civilized world. In order to abolish the middleman and thus bring the consumer into direct touch with the producer, he was induced to obtain many thousands of acres of land in Ceylon for the purposes not only of tea plantations but coffee and cocoa as well. In 1893 it was found necessary to establish closer business relationships in the great tea-growing districts of the East, and with this object Lipton's Calcutta offices were established. Beginning on a small scale and by keeping to Sir Thomas' maxim of giving "best possible value" the business in Calcutta has rapidly increased, so that it is now the great tea-distributing centre to the Indian public, as well as doing a very large shipping business to London and elsewhere, notwithstanding the keen competition there is in this trade. The same principles which characterized and made successful Sir Thomas Lipton's business in Glasgow and London are strictly adhered to and followed by the Indian branch of "Lipton Limited," and has given, and is giving, more than ever the same beneficial results both to the public and the Company. The space at our disposal does not permit our dwelling upon the worthy Baronet's strenuous attempts to "lift the cup," but these are historic, and though so far unsuccessful, it may be safely predicted that if pluck, perseverance, and indomitable will are potential factors, Sir Thomas' ambition to bring back to England the "America Cup" will yet be attained.

Messrs. WALTER LOCKE & Company, Ltd., is a striking example of what may be accomplished in trade in India in so short a time as a decade and a half. The premises of this firm are located on Esplanade East, facing the Maidan, adjacent to the handsome block of buildings erected by the Government for the Foreign Office and Military departments. They have also branches at Lahore and Simla.

The business was started first in the year 1888, its scope being the importation and handling of guns and sporting goods. From the beginning, the firm showed a steady enterprise, and remarkable success attended its efforts. It may be stated incidentally that it was the first firm to introduce into India a good sound gun within the 100 rupee limit. Likewise it was the first agency for Messrs. Slazenger & Sons, the large sporting goods manufacturers. Before long, other important firms rewarded the efforts of Messrs. Walter Locke & Co., and when the cycle boom made itself felt in India, they secured the agencies of such English makers as Lea Francis, Rover, Raleigh, Quadrant, Alldays and Onions, and Lucas, Ltd. Simultaneously they were appointed

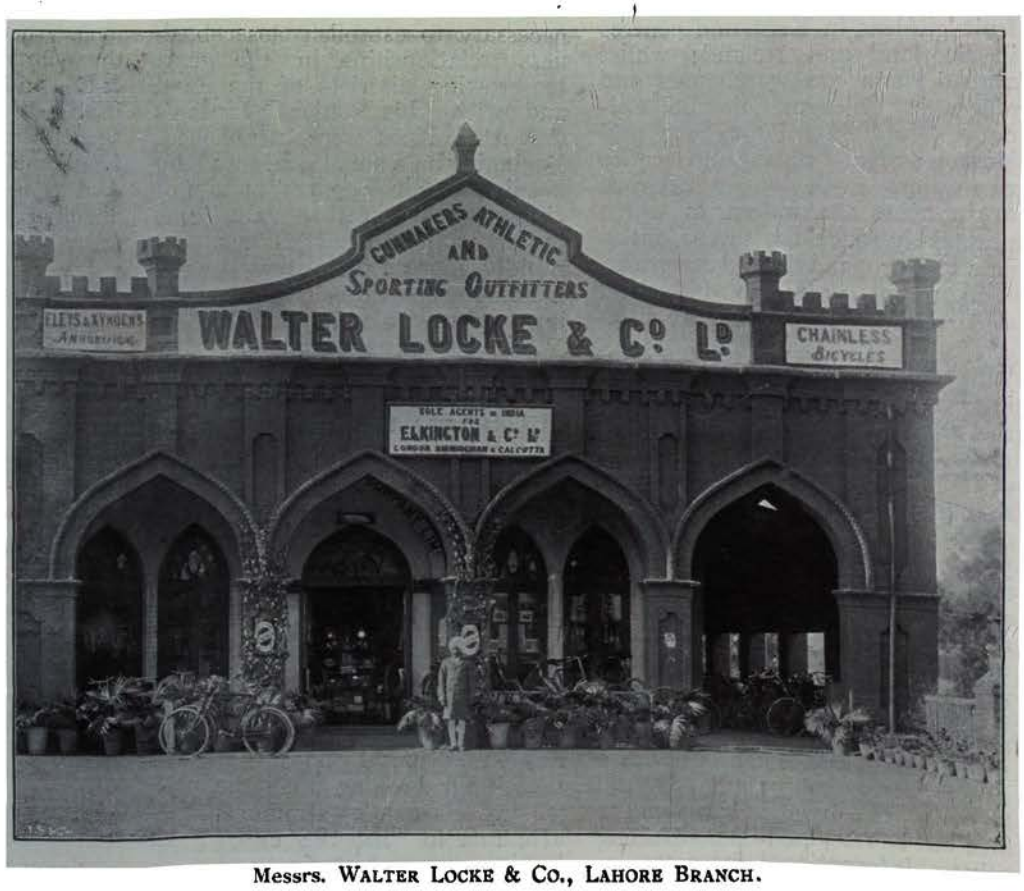
LOCKE BUILDINGS, CALCUTTA.

sole Indian Agents for Messrs. Elkington & Company, Ld., the famous Silversmiths and inventors of Electroplate. Their display of Elkington's manufactures is the finest to be seen out of London.

A large department of the business is that devoted to Electricity. When Calcutta was first supplied with an electrical system, Messrs. Locke & Co. imported a staff of engineers and electrical experts and inaugurated the new department. The wisdom of this departure was early made evident, and now, in addition to being sole agents for such well-known firms as Rhodes, Wakefield, Bergthiel & Young, and Bensons, they are on the Government list of Electrical Engineers. Still keeping abreast of the times, the firm took up the automobile and motor launch business, obtaining the agency for the Indian Motor Car and Launch Company. An automobile expert has charge of this department. Other important manufacturers whom they represent are the Ratners Safe Company, Kent's Water Meters, Goodlass Wall & Company, The Eagle Range Co., Sandow, Ld., and The British Sport Co., Ld. Recently the firm acquired the workshops of the Calcutta Tramways Company near the Kidderpore Docks, and now conduct a Foundry and Constructional Engineering Works. A large staff of workmen is employed in this branch. The Managing Director of Messrs. Walter Locke & Company is Mr. W. J. Bradshaw, one of Calcutta's leading citizens. The influential position of the firm is in no small measure due to the business ability and popularity of its Manager.

Mr. W. J. BRADSHAW.

Mr. WILLIAM JOHN BRADSHAW (*Captain, Artillery Co., Calcutta Port Defence Volunteers*) arrived in India in 1885, armed with a good Birmingham training in business, as an assistant to the firm of Walsh, Lovett & Co. Three years later he established the firm of Messrs. Walter Locke & Co., Ld., of which firm he is Managing Director, and the history of this business has been one of increasing success. Although essentially the man of business, Mr. Bradshaw has engaged himself deeply in many civic interests. In 1886 he attached himself to that popular corps, the Calcutta Naval Volunteers, and, after passing through all the grades, he was elected an officer in 1892. On the Government converting the Naval Volunteers into the "Port Defence Volunteers" Mr. Bradshaw raised the Artillery Company attached to that corps. He is still an active and enthusiastic officer, and his energy and zeal have won him wide respect and popularity in Volunteering circles. Mr. Bradshaw has been for many years a Municipal Commissioner and has done a great deal of useful work on the General Committee and various Sub-Committees. Naturally Mr. Bradshaw is attached to that useful body, the Calcutta Trades Association. In 1900 he was elected Master of the Association and he filled the responsible position with conspicuous ability. For some years he was an Honorary Presidency Magistrate, but has recently resigned, for the want of time to attend at Court. As a member of the Committee of the Sailors' Home, the Seamen's Institute and the Calcutta



Messrs. WALTER LOCKE & Co., LAHORE BRANCH.

Free School he has done excellent work. He was a Governor of the Mayo Hospital and was appointed by Government to the new committee of the Calcutta Nurses' Association. He is also a non-official Visitor to the Presidency Jail and Alipur Reformatory. It must also be added that Mr. Bradshaw is a Member of the Central Committee of the Kalimpong Homes and is one of the Council of the Anglo-Indian Defence Association. As a Mason Mr. Bradshaw has had a distinguished career. He has been twice Worshipful Master of the Lodge "Marine" 232 E.C.; and a Founder, and second Worshipful Master and now Secretary of Lodge "Defence"—a Lodge for Officers of the Naval, Military and Auxiliary Forces. He was a Founder of the Lodge "East India Arms" for installed Masters and its first Senior Warden. He has passed through the principal chairs of "Rose Croix" and "K. T." and has had conferred on him the 30th degree. Mr. Bradshaw is a Past District Grand Warden of Bengal and is a Member of the Committee of the Bengal Masonic Association and the House Committee of the new Freemasons' Hall. He is a Member of the Cathedral Vestry, where his strong common sense has proved of value. In the world of sport, however, perhaps Mr. Bradshaw is known to the widest circle. He has always been an enthusiastic patron of anything savouring of athleticism, and his generosity as the donor of prizes for competitions is proverbial. He has from its initiation been an active Member of the Executive Committee of the Presidency Athletic Association; and football, hockey and cycling in Calcutta owe much to his initiative and energy. He has never spared himself in this labour of love, and his organizing ability has vitalised many sporting clubs. In thus identifying himself with the life of Calcutta in its many varying phases, Mr. Bradshaw has gained wide respect and universal popularity. The secret of his success has been a whole-hearted enthusiasm that carries everything before it and refuses to listen to the weak-minded plea of "My time is too fully occupied." He is a Birmingham man, having been born in that city on June 20th, 1864.

Messrs. LUND & BLOCKLEY, Bombay, Clock and Watch Manufacturers, Silversmiths, etc.

Just as there are few aristocrats nowadays who do not dabble in trade, so there are few trades which keep themselves free from the noise and clamour of the market place. Of these the providing of tower clocks is eminently one, and in Bombay the house of Lund & Blockley is a pioneer and a very fine example of this fortunate business. Mr. George Lund came to India twenty-four years ago, under a contract with Government, to erect the clock of the University (or "Rajabai") tower, which he had already designed and constructed in England. This clock has been ever since the chief keeper of Bombay's time; its chimes are very sweet, and it has an unique

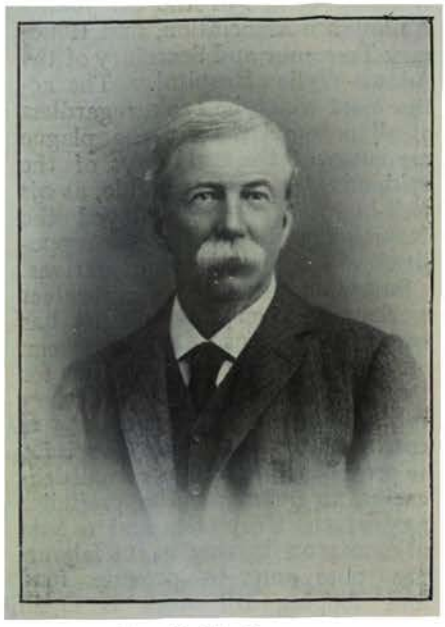
Major Geo. LUND.

repertory of music, which it plays at intervals throughout the day. On the conclusion of his contract, Mr. Lund was prevailed upon to set up in business in Bombay, and his house has always been distinguished for the excellence of the articles it supplies, whether these be clocks and watches, presentation cups and trophies, precious caskets or jewellery, while turret clocks have cropped up all over India as the result of the firm's presence here. Besides being a successful business man, Mr. Lund takes an active part in the public life of Bombay. He has been a Government nominee to the Municipal Corporation continuously since 1892. He is Honorary Treasurer of the Sassoon Mechanic's Institute, Honorary Secretary of the Bombay centre of the St. John's Ambulance Association, and Honorary Treasurer and Secretary of the Adams-Wylie Hospital. The active part which he took, regardless of all personal risk, in the plague measures of the early days of the epidemic were very valuable, as his well-known presence allayed the suspicion and overcame the opposition of the more ignorant natives.

Since the services of volunteer workers in combating plague has been discontinued, he has been official Plague Hospital visitor for the dispensing of discretionary relief from Government Funds to convalescents in Plague Hospitals, to provide fruit and other small delicacies, to overcome the prejudice against the Hospitals, and a sum of money on leaving to the labouring poor only, to provide food and lodging till work is again obtained. He was made a Justice of the Peace in 1897 and is an Honorary Presidency Magistrate, and a Major in the Bombay Volunteer Rifles. He has the Volunteer Officers Decoration, the silver K.I.-H. Medal, the Cross of St. John of Jerusalem, and the Red Cross of Japan. Mr. Lund is a popular man in Bombay and one who sets an example of that good citizenship which is so rare and so much needed in India. He is a Government Inspector of the Harpada Lunatic Asylum at Thana, and a member of the Managing Committee of the Indo-British Institution of Bombay.

Messrs. MacDOWELL & Co. Merchants and Agents, Calcutta, This firm was established in 1893 to carry on the business of MacDowell, Methven & Co., on the dissolution of the latter firm in 1893. Messrs. MacDowell, Methven & Co. were the successors of Messrs. Cox Brothers, a very old established firm of Manufacturers and Spinners. Messrs. Cox Brothers were the pioneers of the Jute Trade in Bengal. They were originally represented in Bengal by an Agent, Mr. Robert Gentle, on whose decease Mr. J. R. Lyell took charge of the representation. To the latter

tleman was due the establishment of what is now known as the Camperdown Pressing Company, Ld., of which Messrs. MacDowell & Co.



Mr. J. MACDOWELL.

are now Managing Agents. They are also Managing Agents of the Canal Press Co., Ld. The partners in the firm are James MacDowell, Alexander S. Dott and Norris L. MacDowell. They are represented by their own House in Dundee and by Messrs. Wm. F. Malcolm & Co. in London.

Messrs. MACNEILL & Company, Calcutta.—This firm was established in 1872, its original founders being Messrs. Duncan Macneill and John Mackinnon. During the thirty-four years which have since elapsed, the firm's increased business and more extended operations have led to a corresponding increase in the proprietary, the partners now being Messrs. John Mackinnon, Donald Fraser Mackenzie, George Lyell, Henry de Courcy Agnew and Daniel Currie.

Messrs. Macneill & Co.'s interests are wide ones, embracing as they do tea, coal, jute, oil, rope manufacturing, insurance, and inland navigation; besides these, which may be classed as major ones, they have minor ones, comprising a saw mill for making tea chests, and a printing press almost entirely employed in meeting their own requirements in these lines.

As owners of, and agents for, upwards of a score of Tea Companies and Estates, situated in Assam, Cachar, Sylhet and the Northern Duars, the firm's interests in this great industry are indeed on a large scale, and the gardens under their control and management have an acreage aggregating over 25,000 cultivated acres, employing upwards of 31,000 coolies, and giving employment also to many Europeans as Managers and Assistants. In the year 1904 these tea estates yielded a crop of over 13 million lbs. of tea, a total which of itself shows the magnitude of the firm's operations in this one industry alone. With the great progress that has marked the coal industry of Bengal during the past two decades, Messrs. Macneill & Co. are also closely associated, the three Companies in Bengal for which they are the Managing Agents, having in 1904 an output of 524,000 tons; whilst the more lately developed coalfields of Assam have also engaged their attention, the Company working in that province, and for which they are the Agents, having in 1903 an output of 242,000 tons of coal, while the quality placed the mineral much higher than any other Indian coal, and on a level with Welsh coal.

As Agents for the Assam Oil Company, Messrs. Macneill & Co. have very considerable interests in furthering the trade in indigenous petroleum, and in competing with the importation of American, Russian and Burma mineral oils in the Indian markets. In 1903 the Assam Oil Company's wells at Digboi in the Lakhimpur district of Assam produced the large quantity of two-and-a-half millions gallons of crude oil.

In the staple product of Eastern Bengal, jute, Messrs. Macneill & Co. are also concerned, being Agents for the Ganges Manufacturing Co., Ld., which mill is equipped with 569 looms, half of which are for weaving heavy sacking and the balance for lighter fabrics. The Ganges Rope Company is yet another industry for which the firm are Agents, and the plant employed for the manufacture of cables and ropes of all descriptions is capable of turning out 250 tons of the manufactured article per mensem. In Inland Navigation, Messrs. Macneill & Co. hold a leading position, and as Agents for the Rivers Steam Navigation Co., Ld., they have under their control a magnificent fleet of steamers built especially for the passenger and freight trade between Calcutta and Assam and Cachar. The steamers of the R. S. N. Co., in conjunction with the I. G. N. & Ry. Co. run on the Brahmaputra River up to Dibrugarh in the N.-E., and on the Ganges up to Patna in the N.-W., and also in the Delta of Bengal, known as the Sunderbuns, and maintain a daily service between Calcutta and Cachar and a tri-weekly service between Calcutta and Assam. The fast daily mail service between Goalundo and Dibrugarh, and between Goalundo and Gauhati, run by the R. S. N. Co., and the I. G. N. & Ry. Co. is an innovation of late years introduced by Messrs. Macneill & Co., and in the matters of speed, cheapening of freights, improved accommodation, and regularity of service, this Firm have led the way to the advantage of the planters and traders of the outlying districts of Assam and Cachar. In addition to the abovementioned services the R. S. N. Co. and the I. G. N. & Ry. Co. keep up daily communication between Goalundo and Naraingunge in connection with the Eastern Bengal State Railway, and between Goalundo and Chandpur in connection with the Eastern Bengal State Railway and Assam-Bengal Railway. Further, they work in agreement with these Railways and the Bengal Central Railway in respect of jute and general cargo, thus doing away with the necessity of the Railways having flotillas of their own to feed them. Still further, the R. S. N. Co. and the I. G. N. & Ry. Co. employ special fleets of steamers and cargo flats in bringing jute to Calcutta. Messrs. Macneill & Co. and the I. G. N. & Ry. Co. also run a tri-weekly service between Calcutta and Chandbally and Cuttack in Orissa.

The old established and powerful Atlas Assurance Company have entrusted their agency in Calcutta to Messrs. Macneill & Co., and in their hands the Indian business of the Company has been very pros-

perous. The affairs of the Assam Railways and Trading Co., Ld., are also under this firm's careful guidance and capable management. The firm owns the Lakhimpur Saw Mills in Cachar, and do a large business in making tea chests and sawing timber. Messrs. Macneill & Co.'s enterprises are thus many and varied, and it is to the progressive spirit of such firms as theirs, that the commerce and trade of India has attained the magnitude and importance it now holds amongst the dependencies and colonies forming the British Empire.

Mr. DAN CURRIE was born in Banff, Scotland, in 1852, and for six years studied law in Elgin and Edinburgh before setting out for India, where he arrived in 1874 and joined the firm of Messrs. Macneill & Co., in Calcutta, with whom after 22 years' service he was made a partner in the business. He has had more than 30 years' experience of Indian business conditions and is a man whose opinion carries great weight in the commercial world. He has performed useful public service on the Calcutta Port Commission, and has especially identified himself with the working of the Jetties and Wharves, and the management of the Finance and Establishment Committees. He has been an active Member of Committee of the Bengal Chamber of Commerce, and his energy and wide business experience have made his services particularly valuable. His many business connections with the tea industry have led to his interesting himself in the development of the tea trade. Since 1903 he has acted as a member of the Indian Tea Cess Committee. The Committee have done excellent work in developing new markets, and the future promises a wider field for exploitation. The developing and fostering of the demand for tea in America and on the Continent is being taken energetically in hand, and in this way the planter will be relieved of the continual fear of overproduction. The business men who have the matter in hand are well equipped for the work, and the results that have followed discriminating expenditure are hopeful.

Mr. DAN CURRIE.

The bad years of overproduction and consequent hardship among the planting community taught a lesson that is being vigorously applied. The imposition of a tax of 100 per cent by the Home Government on tea has hardened the resolve to thoroughly exploit foreign markets. Mr. Currie's business ability has proved of great service to the Cess Committee.

The MERCANTILE BANK OF INDIA, Ld., Bombay. When one looks back on the course of silver in the world's money-markets during the past half century, one is disposed to wonder how any financial concern in the silver-using countries has managed to survive. With the rapid fall of silver many, indeed, went under, and the others had to make very drastic reforms in their organisation. Among the latter class was the Chartered Mercantile Bank of India, London and China, which was established by Royal Charter as far back as 1858. The old Bank had a high standing in the Eastern exchange business, and was severely hit by the adversities of silver, and in 1892 the Charter was relinquished and the institution re-organized under the name of the Mercantile Bank of India, Ld. The benefits of the change may be seen in the great increase in the Bank's business, the deposit and current accounts having risen during the last ten years to over two millions sterling—more than double their previous total. The Bank's net profits have, of course, risen to a very great figure, permitting not only an increase in dividends, but substantial transfers to the Reserve Fund, which now stands at £110,000, which has been built up entirely out of profits. The authorised capital of the Bank is £1,500,000, of which £1,125,000 is subscribed and £562,500 paid up. The Bank negotiates and collects bills and grants drafts payable at its head office and its branches, and issues letters-of-credit for the use of travellers. It undertakes the purchase and sale of Government securities, stocks and shares, and receives the same for safe custody, realising interest and dividends when due. On current deposit accounts the Bank gives interest at the rate of 2 per cent on a minimum daily balance of Rs. 1,000. For deposits exceeding a lakh of rupees special terms are arranged. The head office of the Bank is at 40, Threadneedle Street, London, James Campbell, Chief Manager and the Directors are Sir Alexander Wilson (Chairman), Messrs. R. W. Chamney, W. Jackson, R. J. Black and J. A. Maitland. The branches and agencies are at Bombay, Karachi, Calcutta, Madras, Colombo, Kandy. Galle, Singapore, Penang, Hong-Kong, and Shanghai. The Manager at Bombay, one of the largest branches, is Mr. James Murdoch.

Messrs. MEAKIN & Co., Victoria Brewery, Sonada, near Darjeeling. This Establishment is a branch conducted by this well-known firm of Indian brewers, the head brewery and offices being situated at Kasauli near Simla. The Victoria Brewery, Sonada, was established in the year 1886 by the late Mr. H. G. Meakin and the business has been carried on ever since under the same title. The brewery employés roughly number about 35 hands all the year round and produces some 1,500 hogsheads of beer annually. The beer is brewed entirely from pure malt and hops. The latter is of the best quality imported from England, the Continent and America, and the malt is manufactured from barley grown in the Delhi district. Messrs. Meakin & Co.'s beers have attained a considerable reputation in India. The firm has also branches at Simla, Ranikhet, Dalhousie, Chakrata, and Kirkee, near Poona.

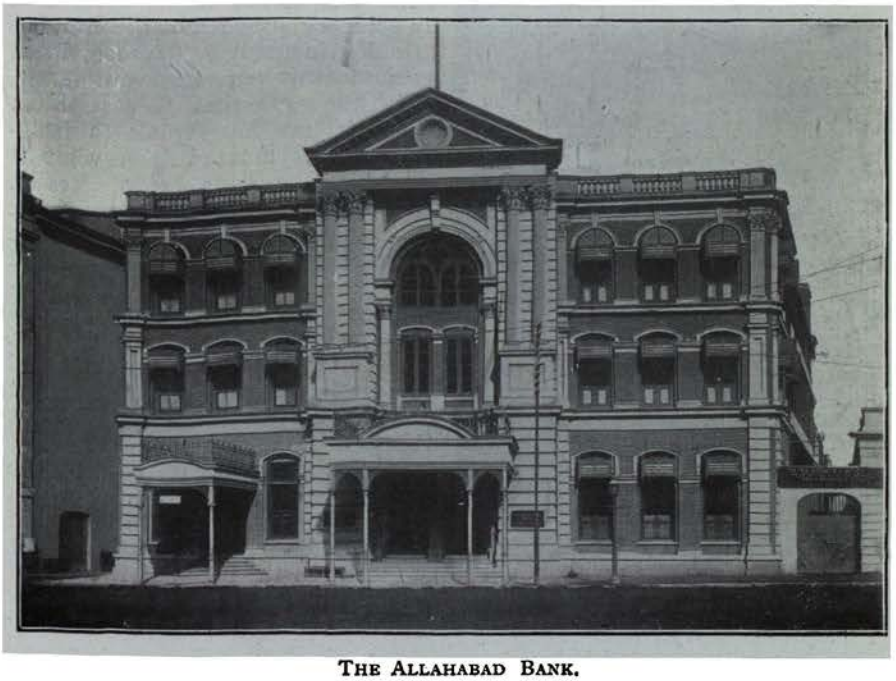
Messrs. MACKINTOSH, BURN & Co., Architects, Surveyors, Builders and Contractors, were established in the year 1834 by Mr. James Mackintosh, a Scotsman. The firm of Mackintosh, Burn and Company has, during the 70 years of its existence, steadily increased in reputation and standing until now the firm enjoys a leading position amongst the Architects and Builders of Bengal. The firm's offices are at No. 8, Esplanade, East. They employ a large staff of trained European Architects and Builders to design and carry out their contracts. The Offices are connected with the Workshops by large Godowns stocked with Builders' requisites.

WAREHOUSE IN STRAND ROAD, CALCUTTA.

The Workshops are situated at No. 40, Bentinck Street, and cover an area of about 5½ acres, but the space has been found too small for the work, and another Yard of about 2¼ acres for storing and cutting timber has been leased at the corner of Chowringhee and Dhurrumtollah, together with an additional portion in Bentinck Street. These additional Yards have not sufficed for the increase of business, and the firm have now put in hand the work of re-erecting the main portion of the Workshops in the Bentinck Street Yard, so as to double the accommodation for carpenters and woodworking machinery. The Motor Power of the Workshop Plant is furnished by four Steam Engines, there are two large Blast Furnaces, so that the firm are able to do all their own castings there are also fully equipped Black

INTERIOR OF THE NATIONAL BANK, CALCUTTA.

smiths' Shops, Brass Foundry, and Tin Shops. The greater portion of the Yard is occupied by Carpenters and Woodworking Machinery of the latest pattern. The firm employ some 700 men constantly at their works, whilst they employ outside in their building operations many thousands more. At Juggernath Ghât and Alipore the firm have large depôts for the storage and preparation of building materials, while at Khyroo's Lane a large carting depôt is provided, where also granite stone is crushed for making the firm's paving composition, which forms not the least important department of the firm's work and for which the demand is steadily increasing. As Messrs. Mackintosh, Burn & Co. make all their own bricks, they own several large brickfields. The fields at Akra and Noongee are in area about 70 acres, give employment to about 2,000 men, and yield a yearly outturn of about 20 million bricks. A brickfield in the suburb at Doorgapore has recently been closed by Government orders, but another field and larger has been started within a short distance of the old one. None of the firm's bricks are put on the market, so that all of the bricks manufactured are used up in the firm's own building operations. Among the many buildings recently designed and erected by the firm are the United Service Club in Chowringhee, the premises occupied by the National Bank, the Allahabad Bank, the Hongkong and Shanghai Bank, the Locke Buildings, the premises of the Young Men's Christian Association, the four Stations of the Calcutta Electric Supply Corporation, the Tagore Castle, the Jewish Synagogue and many others.



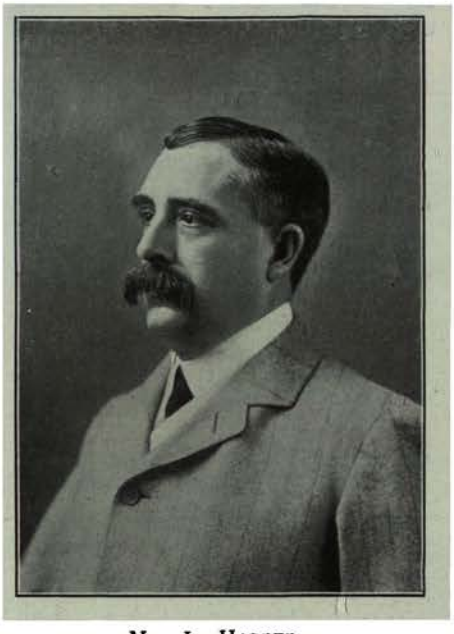
THE ALLAHABAD BANK.

It is the claim of this firm that all things necessary to the erection and adornment of buildings of any character or dimension are made or manufactured by themselves. This feature works to their constituents' advantage in many ways for, by starting at the beginning, the firm is able to produce articles at the lowest possible price. They are practically independent of the local market so that a scarcity of material seldom affects them. They are therefore in the best possible position to finish their contracts expeditiously.

The recent development of sanitary fittings on Western lines has necessitated the re-organization of the Plumbing Department and the employment of specially qualified men to supervise the work, as well as the furnishing of an adequate stock of the latest pattern of sanitary fittings.

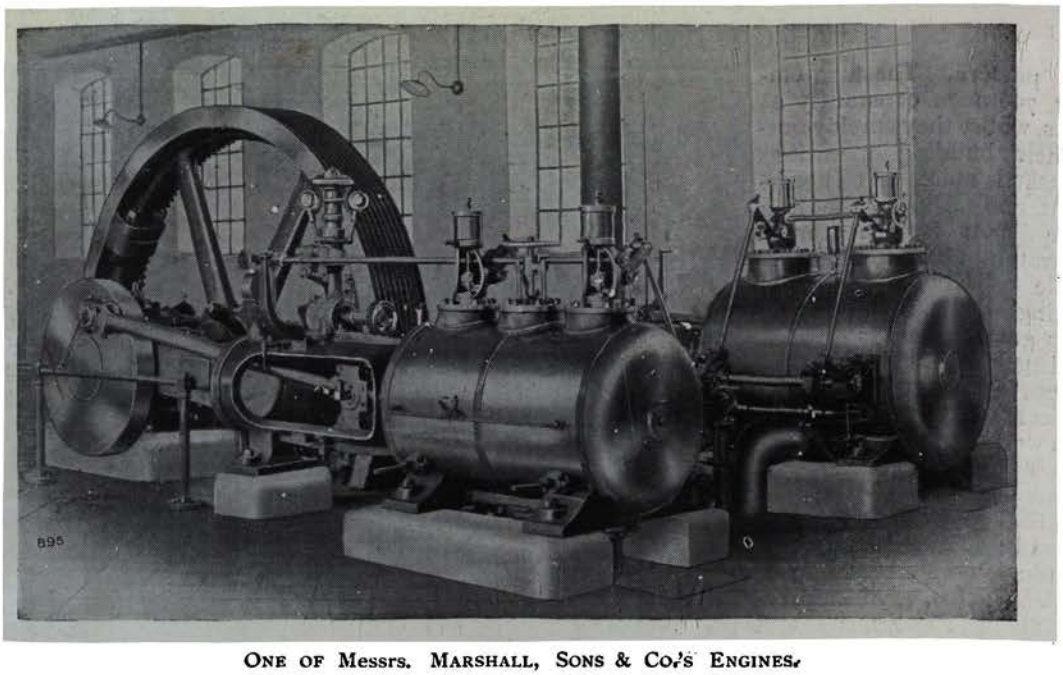
UNITED SERVICE CLUB, CHOWRINGHEE, CALCUTTA.

Messrs. MARSHALL, SONS & Co., Ld., Engineers. The Calcutta house of this great firm is intimately connected with the enormous Tea Industry of Bengal and Assam. It is not too much to say that if this leading firm of manufacturers had not taken in hand the improvement of the machinery absolutely necessary for the production and manufacture of tea on a large scale, that industry could never have risen to its present huge proportions, for in every department in tea manufacture the clever and effective machines under Jackson's patents, manufactured and handled by Messrs. Marshall, Sons & Co., are in universal use. For over a quarter of a century, from before the time that Indian tea rose to its present paramount position on the markets of the world, Messrs. Marshall, Sons & Co., have been sending out a stream of constantly improving and highly ingenious machines for the purpose of dealing with tea leaf in every stage in the manufacture of tea. The firm's Tea Rollers, single and double action, or Drying Machines for drying the manufactured tea, are models of



Mr. J. HARPER.

ingenuity and efficiency. They may be seen wherever tea is grown other purpose in the manufacture of Black tea have also been perfected by the firm under Jackson's patents till the planter has scarcely a thing left to wish for in this line. The long list of highly specialised machinery, supplied by the firm, has resulted in nearly every process in tea manufacture being made automatic, with the result that the cost of tea manufacture has shrunk to insignificance, compared with what it was in the days before Messrs. Marshall, Sons & Co. adopted Mr. Jackson's patents, and lent the aid of their great mechanical skill and engineering resources to the development of the machinery needed by the Tea Industry. Indian tea in the face of falling prices could never have grown to its present almost universal use had it not been for the great cheapening of manufacture brought about by the Jackson's patent machinery which the firm has handled with such skill and success. Although in Calcutta to mention the name of the firm of Marshall Sons & Co. is to instantly turn attention to the tea industry

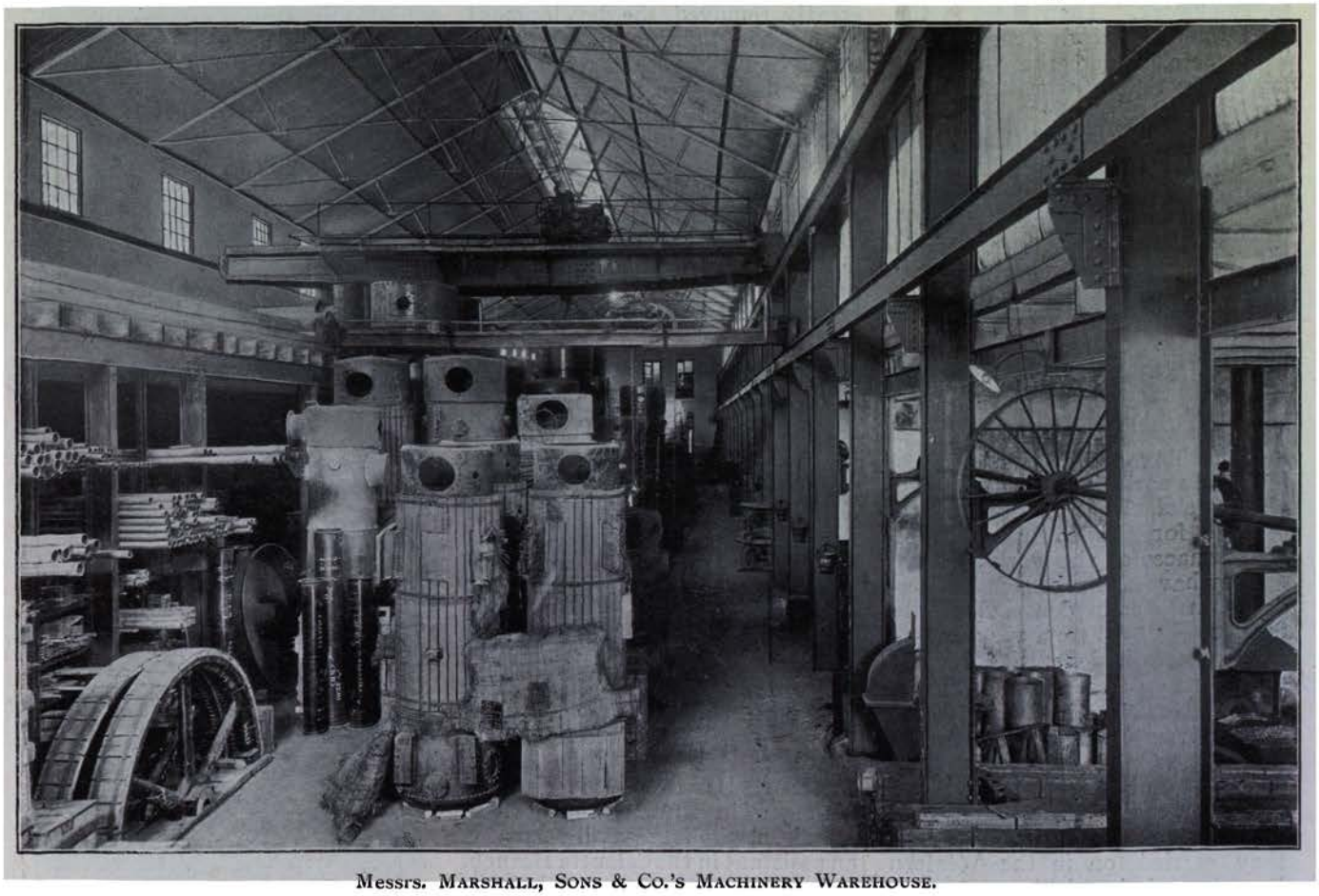


ONE OF Messrs. MARSHALL, SONS & Co.'s ENGINES.

are famous and to be found in every tea estate in India and Ceylon, besides Java and minor tea-producing countries. Their "Firing" by Europeans and hold the premier place in tea planters' estimation. Sifting, Sorting and Packing Machines and apparatus for every with which they are so closely connected and for which they have done so much, the firm deal widely in other kinds of machinery and have a

world-wide reputation for all classes of machines. Marshall's Gainsborough-made engines and boilers have no less a reputation in Bengal and Assam than they have elsewhere throughout the world. In their Calcutta warehouses they hold large stocks of every kind of engineering requisites, shafting of the highest quality, all parts of machines in the shape of plummer blocks, brackets and every appliance needed by the practical engineer for the putting together of machines and the fitting of factories. Their catalogues contain lists of articles in this line too lengthy to summarise. These catalogues are kept up to date and form a complete guide to the requirements of those connected with the manufacture and management of machinery of every sort. A visit to Marshall's great warehouses in Clive Street will gain a view of the various specialities of the firm for they hold stocks of all their famous machines erected for the purpose of exhibition. The order prevailing throughout these warehouses is typical of the thorough way in which the firm take up everything they handle. Travelling cranes running throughout the building serve every department and render the handling of heavy pieces of machinery a simple matter to be got through without any of the fuss incident where the native of India effects such work by hand. The offices in the upper floor of the building are second to none in Calcutta, for their perfect appointments. The Calcutta Branch contains the head office of which Mr. John Harper is the firm's General Manager in India. The local Assistant Manager being Mr. G. J. Cassie.

The Bombay Branch of Messrs. MARSHALL, SONS & Co.'s is situated in Hummum Street. The firm have very large and extensive works at Gainsborough, England, established in the year 1848, and called the Britannia Works, which may almost be taken as forming Gainsborough itself, for nearly one-fourth of its population of about 18,000 people has been employed by them as engineers, draughtsmen, clerks, workmen, etc. The works occupy upwards of nineteen acres of ground, besides those opened in recent years by the side of the River Trent, which cover another nine acres. And twenty-eight acres are fully needed to enable Messrs. Marshall, Sons & Co. to meet with promptitude the great demands which are made from nearly all parts of the world upon their powers of production.



Messrs. MARSHALL, SONS & CO.'S MACHINERY WAREHOUSE.

The works comprise various departments which contain an enormous stock of duplicates and fittings ready to be sent out at a short notice. The electric shop is an extensive building with a gallery running all round it and is furnished with 25-ton travelling cranes. The basement forms a large array of modern tools for completing the fittings for the various machines, the galleries being occupied by drilling and other machines, all of which seem to go with a precision equal to clockwork. Then there is the department for testing engines and boilers, etc., the erecting and turning shops, the boiler makers' shop, the brass foundry, the tool-making shop, the finishing department, the machine shop, the pattern-making shop, the thrashing-machine department and various other sections which are necessary to deal with the numerous demands. Messrs. Marshall, Sons & Co. are also the largest manufacturers in the world of all steam and other appliances for modern agricultural purposes, and the works situated on the banks of the River Trent contain extensive sheds for storing, thrashing, dressing, finishing, and other machines for use in agriculture. There are also huge stacks of pig iron which provide for the consumption of the furnaces at the works.

They have also a branch in London, in Farringdon and Castle Streets, E.C., where a very extensive business is done.

About 14 years ago they established themselves in Calcutta and have been supplying boilers, engines and various kinds of machinery to a great number of important industries in the East. The very large and extensive business that they carried on in the Western Presidency induced them to open a branch in Bombay in the year 1900, and within a short period it has grown so rapidly that they have found it necessary to build their own Offices, Show Rooms and Machinery Godowns. These are being erected at the corner of Ballard Road, adjoining the Offices of the Port Commissioners. They will consist of a four-storied building of stone, designed by Mr. C. F. Stevens, Architect, Bombay, with godowns adjoining the Office. Electric lifts and all latest appliances will be introduced into the new premises. Messrs. Marshall, Sons & Co. are Engine Suppliers to the Government of India, the Indian State Railways, Dockyards and Poona Gun Carriage Works. They have supplied seven big engines for the new Small Arms Factory, three engines at Ishapur and two for the Engineers' Training College, so that nearly all the works are driven by Messrs. Marshall, Sons' engines. Now that the prejudices against electric power have been greatly removed, the development of electric lighting and traction throughout the world is progressing at so rapid a pace, more especially in the United Kingdom and the British Colonies, that English Firms are now devoting their sole attention to the exploitation of India. Messrs. Marshall, Sons & Co., in conjunction with Messrs. Crompton & Co., Ld., of Chelmsford and London, a well-known Electric Light Firm, have extended their business in India, and the combination of these two powerful firms will cause a revolution in electric lighting and traction developments in the East, both concerns having resources which are practically unlimited in capital and stock.

Messrs. Marshall, Sons & Co. have Agencies in China, Singapore and Rangoon, and all important places in the Far East. The vast industrial operations that are in existence and that are being floated, all need machinery of the latest type, and there can be no two opinions that electrical operations have proved greatly superior to those of past decades.

Mr. J. Harper is the General Manager in India, and Mr. F. Harrison, who for several years was an assistant in the Calcutta Branch, has recently been appointed Manager of the Bombay Branch. Mr. Harper came to this country in 1890 to start the Calcutta Branch, which, from a small beginning, has gradually developed into one of the largest and most successful Engineering undertakings in the East, the natural result of that energy and enterprise which are characteristics of the Home Firm.

Mr. FRANK HARRISON, M.I.MECH.E., Manager, Messrs. Marshall, Sons & Co., Ld., Engineers, Bombay, was born in the year 1865, and educated at Gainsborough. He was apprenticed with Messrs. Marshall, Sons & Co., Ld., in the year 1880, and during his apprenticeship he attended the Scientific Classes held at Gainsborough. In the year 1884 he assisted in the erection of the whole of the machinery at the *Manchester Guardian* Printing Office. In the following year he erected the motive power at Messrs. W. D. & H. O. Wills' Central Tobacco Factory, Bedminster, Bristol. Having obtained the necessary mechanical experience, he was elected a Member of the Institute of Mechanical Engineers, London. During the years 1886-7, he was engaged at the Liverpool Exhibition in charge of the motive power driving the whole of the Electric Light Plant. In the year 1888, he was appointed Assistant to the Manager of the Engineering Department of Messrs. Marshall, Sons & Co. at their Works at Gainsborough, and eventually became Assistant Manager of that Department. He remained in that capacity until he came out to India in 1893, and after serving as Engineer and Assistant Manager at Messrs. Marshall, Sons & Co.'s Calcutta Branch for nearly ten years, he was appointed Manager of their Bombay Branch.

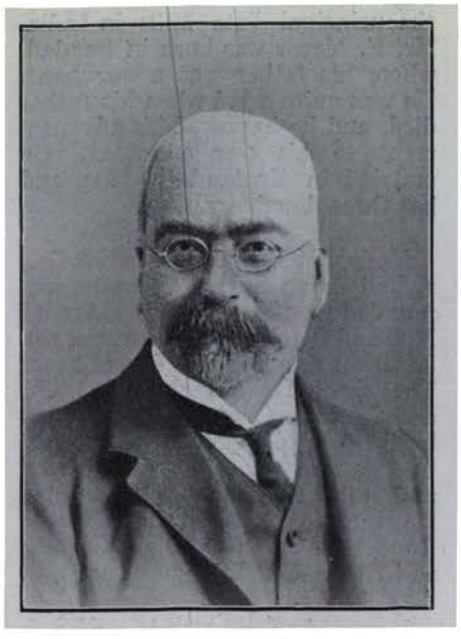
Mr. FRANK HARRISON.

Mr. JAMSETJI FRAMJI MADAN, wholesale and retail Merchant, No. 5, Dhurumtollah Street, Calcutta. Mr. Madan's name is widely known throughout Northern India. In every cantonment the

Mr. J. F. MADAN.

catering of Mr. Madan keeps the military community in touch with the necessities and luxuries of civilization, and the civilian element is equally indebted to this enterprising gentleman in his capacity of universal provider to the utmost limits of India. Mr. J. F. Madan is a self-made man in the strictest sense of the word. His great enterprises have been the result of his work in inception and execution. Born in India in the year 1856, he was sent for his education to the Parsee Benevolent School founded by Sir Jamsetjee Jeejeebhoy. While still at school, he met with what at first seemed a misfortune, but which was in the end undoubtedly the making of him. His father suffered heavy losses by the failure of the Bombay Land Reclamation Bank, and young Madan's studies were perforce cut short. He had to leave school and launch himself upon the world of work at an early age. There was little promise of the future commercial success he has attained in his first line of employment. He obtained an engagement in a theatrical company. The salary was small, and the prospects not over bright, but with characteristic energy, he set himself to succeed in this line. He worked his way up and his abilities enabled him to reach the top of the profession, and as a result he obtained a partnership in the Company, the other partners being Dr. N. N. Parekh, Mr. Sakloth, and Mr. D. M. Wacha. This was in the year 1875. The Company made a sufficiency during the next six years. Mr. Madan's own statement is that he "made a little money in the theatrical business," but these were not the days of his great things. He was then 25 years of age. With Rs. 15,000 in hand he entered the state of matrimony and decided to try his fortune in Karachi. This proved the turning point of his career. Up to then he does not seem to have ever contemplated business of a commercial character, but being attracted to an auction sale by chance while in Karachi, he found that the goods of a large merchant were being disposed of to the highest bidder by order of the Supreme Court. He took the opportunity and bought up a considerable quantity of the goods offered, upon which, with characteristic shrewdness, he realised a profit of Rs. 2,000. This was pretty good for a novice's venture in commercial speculation, and at this time, Mr. Madan was a novice in such matters. This chance transaction opened his eyes to the great advantages to be found in commerce as an investment far more lucrative than any to be found on the stage. He accordingly devoted himself to the buying up of stocks at auction sales, visiting many cities in the pursuit of this business and making profits more or less large, but always profits, his natural commercial instincts standing him in good stead. These transactions turning out so well emboldened him to start business on a more regular scale. In partnership with Mr. Sakloth he established a business in Calcutta, but after two years of partnership, in the year 1885, the partners decided to try their fortunes separately, and accordingly Mr. Madan opened an establishment at No. 5, Dhurumtollah Street, Calcutta. Once in possession of a fixed place of business of his own, Mr. Madan's advancement was rapid and steady. He had never severed his connection with theatrical enterprise, but of late this branch of his business caused him heavy losses, which, however, were fully recouped by the success of his mercantile transactions. His great organizing abilities enabled him to carry out his contracts with such satisfaction to his clients, that he became one of the leading contractors in the supply and transport of goods. This led to his obtaining a large commissariat order to supply the army with everything required by it. He established branches and agencies and executed orders over a vast range of country. As a specimen of his enterprise, he established shops every twenty miles from Siliguri to Chambi. Mr. Madan's operations, under the encouragement he received from all those who had had such good reason to be satisfied with the manner in which he had dealt with them, became vast. A handsome income now rewards the earnest work and business sagacity of a gentleman who in benefiting himself has also benefited many thousands of others.

Messrs. MEYER BROTHERS, Merchants and Agents, Pollock Street, Calcutta. This well-known



Mr. E. MEYER.

and prominent firm was started in in the year 1867 by the three brothers, Reuben, Manasseh and Elias Meyer, under the style and title of R. Meyer in Calcutta, Singapore and Rangoon. The

latter branch was from the beginning carried on under the style of Meyer Brothers, and later on the same title was adopted by the Calcutta and Singapore houses. After a very successful business career Mr. Reuben Meyer died in 1884, and the concern was carried on by Messrs. M. and E. Meyer, until the year 1889 when Mr. E. Meyer took over the whole business. This he conducted until 1897, when he gave up the name of Meyer Brothers and started a new firm in Singapore under the style and title of E. Meyer & Co., the Calcutta firm continuing to hold the title of Meyer Brothers. The large business of Messrs. Meyer Brothers is carried on in opium, gunnies, rice and many other commodities. They trade with Burma, China, Java and Bangkok (Siam). Formerly a large import business was transacted by the firm, but now they confine themselves to exports alone. They are very largely interested in the jute industry; Mr. E. Meyer is one of the oldest established merchants in the gunny trade; is a large house property-owner, and is Managing Director of the Khardah Co., Ld., which ranks now as one of the principal Jute Mills in India. Mr. E. Meyer was born in Bagdad, where his father was a merchant. He was quite a lad when his father died, and he has owed his advancement to his own exertions. He married in England in 1893 and has three daughters.

Messrs. MOLL, SCHUTTE & Co., 1, Lall Bazar Street, Calcutta, was founded in 1894 by Peter Arnold Moll and Otto Albrecht Schutte, the latter retiring from the firm in 1902. The firm has branches in Delhi and Cawnpore and principally does business in piece-goods and paper, besides a small business in produce and jute fabrics. They are also Managing Agents of the Bengal Bone Mills and the Nilgiri Granite and Stone Co., Ld.

Messrs. A. I. MANTACHEFF & Co., Oil Importers, etc., Bombay, was established in Bombay in 1897, and carries on a large and extensive trade in the importation of Kerosine oil in cases and tins. The chief office for Bombay Presidency is at Bombay, with branch at Karachi, and for Bengal Presidency in Calcutta. It is one of the largest producing and trading companies in the world and has branches and agencies in various parts of Europe and Asia, the chief office being at Tiflis, Russia, with oil wells producing yearly on an average 200 millions of gallons of

Mr. R. MERABOFF.

oil and having extensive refineries at Baku. Their Ram Brand is well known and is in great demand everywhere owing to its purity and superior qualities. It is brought to Bombay from Batoum where the case oil factories are situate and a part transhipped by native vessels proceeding to Karachi, Kathiawar, Persian Gulf, African and Malabar Coast Ports.

Mr. R. Meraboff, who started the Indian business, is the Manager of the Firm in Bombay. He is an Armenian subject of Russia and has been connected with the oil industry for many years. The Company now proposes to have Bulk Oil Installations and Tanks all over India.

Messrs. MARSLAND, PRICE & Co., Engineers and Contractors, Bombay. This rising young firm of constructional Engineers first started business on the 1st of January, 1900, and by their energy and progressive methods have already established themselves in the front rank of their profession in India. The secret of their success is not far to seek. They are the first firm in India to grasp the value of re-inforced concrete construction, and to make its teachings their own. Simultaneously, they foresaw that the principal re-inforcing material in concrete construction would be Expanded Metal, and with commendable enterprise they thereupon obtained from the Expanded Metal Company their agency for India. The agency was well placed, and the Company may congratulate themselves, not upon having secured merely active Agents for buying and selling their material, but upon possessing, in Marsland, Price & Co., progressive coadjutors in spreading a practical knowledge of the science of combining steel and concrete for almost every constructional purpose. Facts are stubborn things, and no further demonstration of the unique position held by Marsland, Price & Co., in the engineering world in India, is needed, than the following instructive incident which speaks for itself. One of the leading Municipal bodies in India, acting upon the advice of experts, had resolved that a certain important work should be constructed of re-inforced concrete. Tenders were about to be called for, when the city fathers were informed by their own Engineers that this course

Mr. MARSLAND.

would be but a waste of time and money, as the only contractors in India who could carry out the work, or who had a proper knowledge of the subject, were Marsland, Price

& Co. of Bombay. The general reader may ask what is this new cult in building construction. What is this wonderful material or combination of materials which has been shewn to be indestructible, everlasting, never requiring repairs, fire-proof, thief-proof, vermin-proof, damp-proof, the best for earthquake shocks, and yet economical? In short, *what is re-inforced concrete?* Re-inforced concrete consists of introducing iron or steel sections into the substance of the concrete in such a manner and in such positions as to take up those stresses which cannot be resisted by the concrete unaided. In steel and concrete we have two materials, of which the most prominent features are, respectively, strength and durability. The use of concrete began with the dawn of civilization, while steel is as old as the sword. It was not, however, until the close of the nineteenth century that the attention of Engineers was directed to the enormous advantages to be gained by a combination of the two materials. The first re-inforced concrete structure known to the world was a small boat exhibited at the Paris Exhibition of 1855. A few years later a French

Mr. A. B. PRICE.

gardener constructed very successfully some re-inforced concrete pots for shrubs. This led to experiments being made, and a thorough study of the subject was undertaken by Engineers of all nationalities. The problem that confronted them was how to effect the combination of steel and concrete in such a way as to satisfy the requirements both of

Mr. R. A. WILLIS.

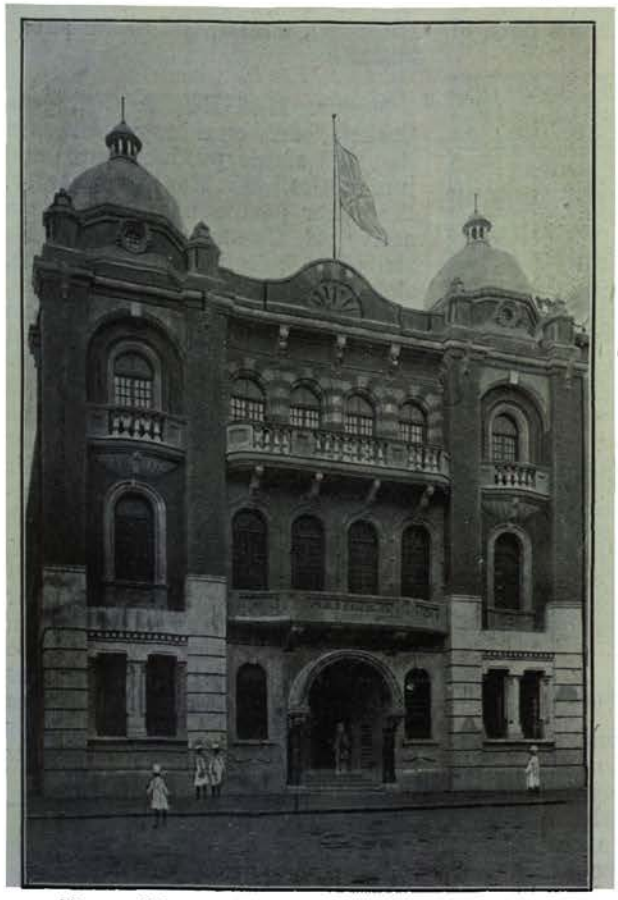
artistic design and scientific construction. The solution was not to be found in the employment of the two materials separately, as occurs when steel columns are erected and cased with concrete, or when steel girders and joists are laid and buried in the concrete. It had to be looked for in the combination of concrete and steel in such a way as to produce what is practically a new material, permitting the retention of recognized architectural forms, and of the solidity that characterizes masonry construction, while ensuring ample stability, strength, and stiffness, the three essential conditions of equilibrium. The result is the introduction of the composite material described variously as concrete-steel, steel-concrete, ferro-concrete, armoured concrete, and, as we have styled it in this article, re-inforced concrete. With this system of construction in India, the name of Marsland, Price & Co. is already indissolubly linked. They are not only the pioneers in India of this method of building, but they are also the leading experts in re-inforced concrete work. This position has not been attained by accident, but has been fairly won by self-sacrifice, patient research and practical experiment, enterprise, severe specializing of the subject, and by all the qualities which go to the making of a successful, honest, and useful public business.

Messrs. MASSEY & CO., Jute Brokers, carry on a large business in Bengal's staple product, jute and jute fabrics. Mr. Montague Massey, the senior partner of this firm, is a native of Chester, England. He arrived in India in the year 1860, and first joined the firm of Messrs. W. C. Stewart & Co. This firm failed about the time of the great cyclone of 1864, and after remaining for two years winding up the business, Mr. Massey joined the firm of Messrs. Borrodaile Schiller & Co., and became Manager of their tea department, with whom he remained up to the year 1869 when he proceeded to England. Returning to India, he next joined a firm of produce brokers and two years later decided to open business on his own account in jute produce, etc. The present designation of the firm has been arrived at after several changes of style. It was constituted under its present title in 1901 and is now

Mr. MONTAGUE MASSEY.

carried on by the partners, Montague Massey, C. D. Stewart and W. G. Martelli, all three experienced men, the main business being jute and jute fabrics.

Messrs. MARTIN & Company, Engineers and Contractors, Jackson House, Calcutta. This Firm, founded in 1875, occupies a leading position amongst the Engineering and Contracting Firms in India. Established in the above mentioned year by Mr. Thomas Acquin Martin, now Sir Thomas Acquin Martin, *Kt.*, the progress of the firm has been one of steady prosperity, and the name of Messrs. Martin & Co. is synonymous with good work, enterprise and large undertakings. Since the death of Sir Thomas Acquin Martin, Mr. R. N. Mookerjee, Mr. C. W. Walsh and Mr. Harold P. Martin are the partners and the firm's operations as Civil Engineers and Contractors extend from one end of India to the other, even to Cabul, in which city they were represented by Mr. Frank Martin, who resided there from 1895 until quite recently.



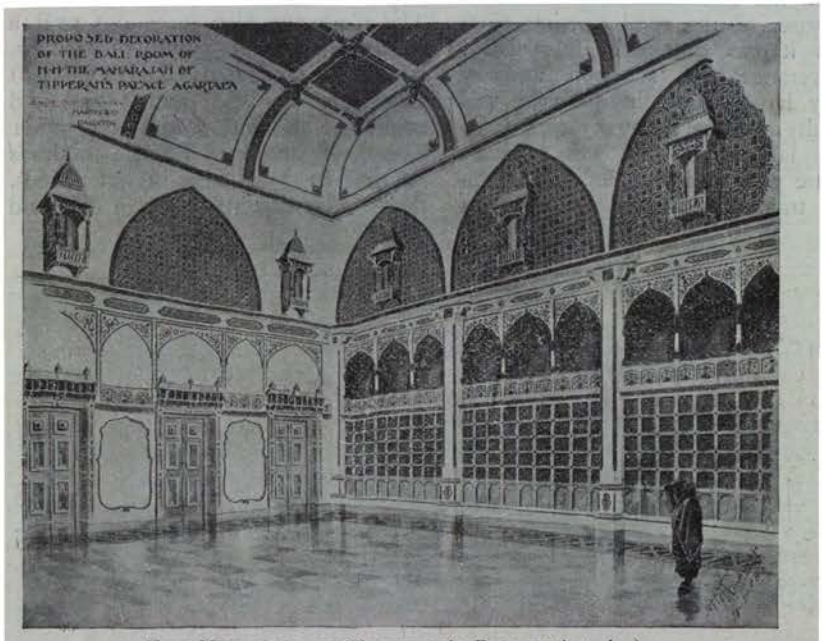
Messrs. MARTIN & CO.'s OFFICES, CLIVE STREET.

Messrs. Martin & Co. have constructed water-supply, drainage and similar public works throughout Bengal and other provinces, as well as in Native States; and in Calcutta and Bombay their operations in this direction have been on a very extensive scale, their more recent works in Calcutta being the Drainage outfall suburban sewerage, and the unfiltered water-supply. Among other important water-supply works erected by the firm are those at Allahabad, Benares, Cawnpore, Agra Cantonment, Lucknow, Meerut, Arrah, Berhampore, Srinagar (Cashmere) and Tansa Duct Works (Bombay). Architecture and building is a large department of Messrs. Martin & Co.'s business, their Chief Architect being Mr. Edward Thornton, F.R.I.B.A., and palaces, public buildings, and residences are now in course of erection by the firm in different parts of the country. Of these, the Tipperah Palace built for His Highness the Maharajah of Tipperah, the Royal Insurance Company's premises, Dalhousie Square, Calcutta, and the Mysore Memorial at Kalighat, stand out prominently as buildings, each of a type fully appropriate for the purposes for which it was intended and designed. The Mysore Memorial at Kalighat is an unique work of its kind, fully exemplifying the best traditions of Eastern architectural art and design.

This temple was erected by the Government of Mysore in memory of the late Maharaja who died in Calcutta in 1897, and whose body was cremated on the spot where the memorial stands on the banks of Tolly's Nullah at Kalighat. The buildings include the temple, ghat, pavilion and gateway. The temple, pavilion and ghat were constructed from designs by their resident architect, Mr. Edward Thornton, F.R.I.B.A., from instructions given by the late Sir Sheshadri Iyer, the celebrated Dewan of the Mysore State, and from details from old temples at Mysore supplied by Mr. Standish Lee, Superintending Sanitary Engineer to the Mysore Government, who designed the gateway. The temple is in the Dravidian style

THE MYSORE MEMORIAL, KALIGHAT.

and is very massive in structure and rich in detail of carved stone, bracket capitals, pierced stone windows, and



THE MAHARAJA OF TIPPERAH'S PALACE (interior).

delicate plaster enrichments, grotesque masks and other devices.

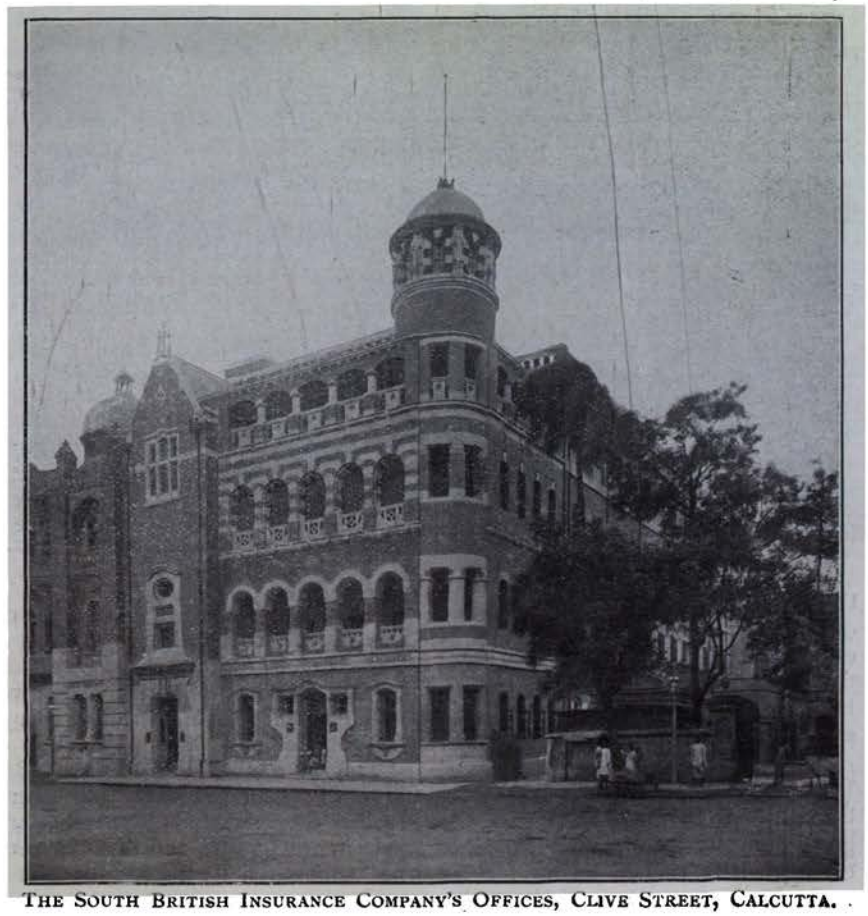
Messrs. Martin & Co. have materially added to the architectural beauties of Calcutta by the many handsome buildings erected in this city by them of late years, and their new office in Clive Street, recently completed, will compare with any in Calcutta. To this firm also was entrusted the very important work of putting in the foundations for the Victoria Memorial, a work requiring much skill and care in its execution, as they will have to safely bear the vast superstructure presently to be erected on them as an all-time Memorial to Her late Majesty Queen Victoria.

Amongst other large works and important projects in which Messrs. Martin & Co. are interested, may be mentioned "The Bengal Iron and Steel Company," Limited, of which they are the Managing Agents in India.

Messrs. Martin & Co. are also the pioneers of the light Railway systems in Bengal, utilizing district roads for this purpose. The great success obtained by their first venture in this branch of Engineering—the Howrah-Amta Light Railway, has led to their constructing the Howrah-Sheakhalla Light Railway, the Ranaghat-Krishnagar Light Railway, the Bukhtiarpur-Behar Light Railway, the Baraset and Basirhat Light Railway, and they have now under construction another light Railway between Delhi and Saharanpur. These light railways serve as feeder lines to the larger Railway systems, and are admirably adapted to open up the country at a moderate cost.

Messrs. Martin & Co. are also interested in the important and increasing Jute Industry of Bengal, being until recently the Managing Agents for the Arathoon Jute Mills, established by Mr. T. Arathoon and situated on the north-east outskirts of Calcutta. On their completion Messrs. Martin & Co. took over the Managing Agency of the Company. The buildings and works cover an area of many acres, and the Mill, which is one of 670 looms, equipped with the latest and most modern machinery, gives regular employment to some five thousand hands, and a staff of skilled Europeans.

The extensive collieries at Kosoonda, worked by the Kosoonda and Nyadee Collieries, Ld., under Messrs. Martin & Co.'s direction, is another of the firm's important undertakings, as also the Hooghly Docking and Engineering Co., Ld.,



THE SOUTH BRITISH INSURANCE COMPANY'S OFFICES, CLIVE STREET, CALCUTTA.

and their brickfields, lime kilns, timber yards, machinery, and store yards are the necessary adjuncts of a large and thriving undertaking.

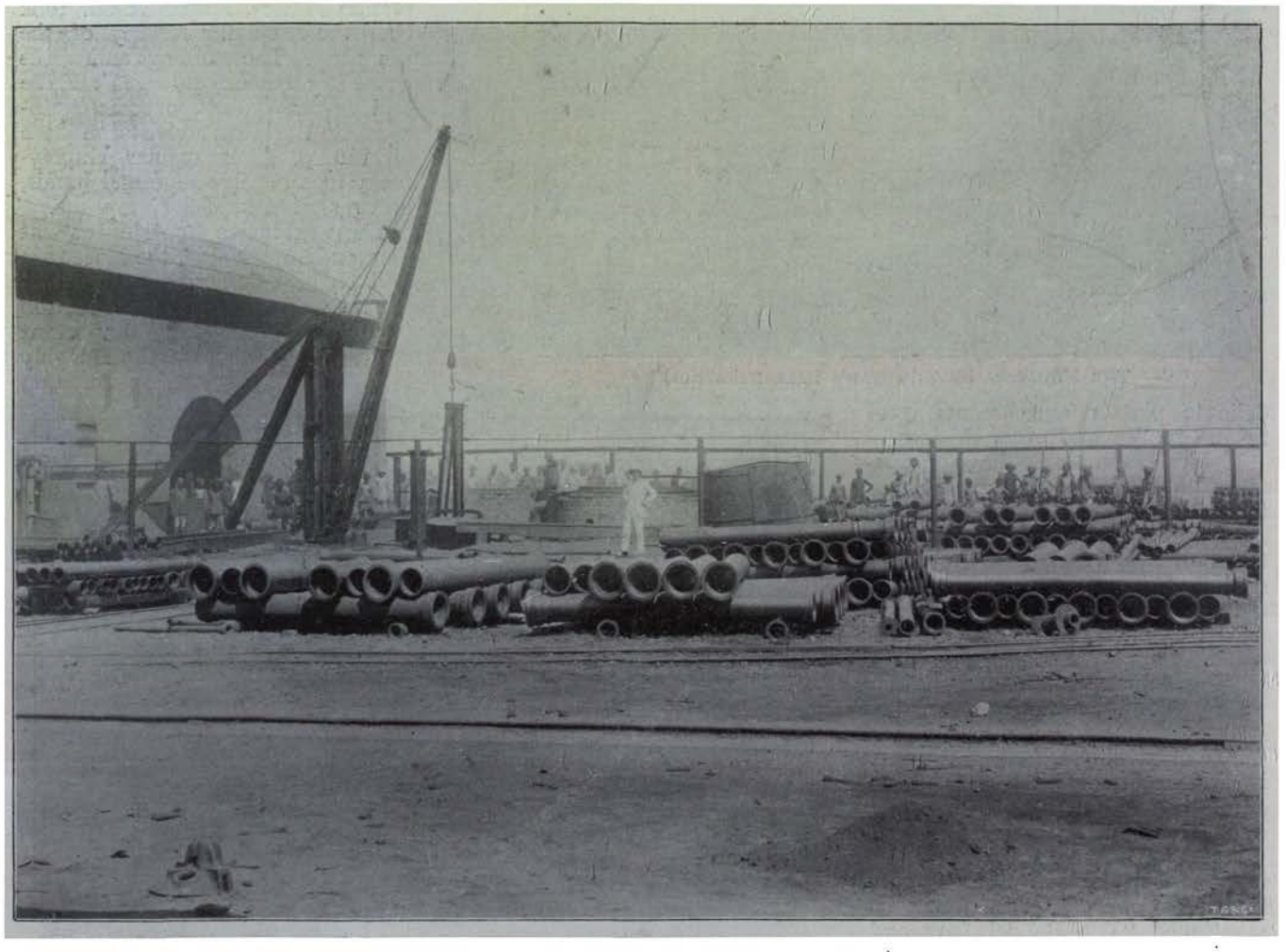
The BENGAL IRON AND STEEL Company, Limited, is the pioneer company of an industry which should in time undoubtedly add greatly to the wealth of the country, and develop its resources. At present their works are the only one turning out iron and steel made from indigenous materials in the country, and their manufactures are bought freely, being in quality fully equal to similar goods imported from England or elsewhere. At its outset the Bengal Iron and Steel Company had many difficulties to overcome, notably the great difficulty in obtaining skilled, or even partially trained labour for the works, having to draw their supply from an almost purely agricultural class of labourer; and even this source was an unreliable one, depending, as it did, on the agricultural prosperity, or otherwise, of the rural districts from which it was obtained. Sustained perseverance and renewed untiring energy have at length overcome this difficulty and the Company now have ample labour of their own training, and are now well supplied with sufficient trained workmen to carry on their operations without hindrance on this score. The works are situated at Barrakur, Bengal, and give employment to many thousands of Natives under a staff of some fifty Europeans.

The Company has a Capital of £400,000 sterling and has expended over this sum in plant, machinery, landed property, buildings, etc., and paid in 1904 a dividend of 6 per cent. per annum on its Preference shares, and 4 per cent. on its Ordinary shares.

The output of pig iron is about one thousand tons per week, which find a ready sale throughout India, the Railway administrations being large buyers. The Company also turns out over a thousand tons per month of castings, consisting chiefly of Railway pot sleepers, chairs, water-pipes and columns, and other cast-iron goods. The latest improved English methods are used in the casting of water-pipes, these being cast vertically in dry sand moulds and, being in every way equal to the imported articles, command a ready local market.

The addition of Steel Works to the Iron Works was completed in June 1905, and steel of a good quality has been produced. The Company own extensive coalfields in addition to their other properties.

Messrs. Martin & Co. are the Managing Agents in India, and there is a Board of Directors and Offices in London,



Colonel Alexander J. Filgate, R.E., being the Chairman of the Home Board.

Sir THOMAS ACQUIN MARTIN, late of the firm of Messrs. Martin & Co., Calcutta, was born in Warwickshire, England, in the year 1851, a son of the late Mr. P. W. Martin, a Birmingham manufacturer. Sir Thomas Acquin Martin was educated at the Oratory, Edgbaston, one of the pleasant suburbs of Birmingham, and after gaining mercantile experience and training at Home for a few years he came out to India in the latter part of 1874. He commenced his Indian career by founding a firm to carry on business as merchants, engineers, and contractors, which is the present firm of Messrs. Martin & Company, of Clive Street, Calcutta, Civil Engineers and Contractors. Sir Acquin Martin's labours were not confined to the Bengal Presidency alone, his firm having been closely identified with engineering works of the first magnitude in many other parts of India (and even across its borders), such as the Tansa duct works, providing the City of Bombay with a constant supply of pure water from a distance of some forty miles, over very broken country, to the erection and full equipment of the large and extensive arsenal and factories for the

The late Sir T. A. MARTIN.

manufacture of ammunition, and numerous workshops for nearly all general purposes in Cabul. Sir Acquin's connection with Cabul and the Rulers of Afghanistan dated from the year 1886, when Sir Salter Pyne, C.S.I., on behalf of the firm of Martin & Co., visited the Afghan Capital. Sir Acquin Martin gained more especially the full confidence of the late Ameer Abdur Rahman, which led to his selection by that potentate to accompany the Shahzada Nasir-ullah Khan, his second son, on the occasion of that Prince's visit to England in 1895. This delicate and onerous task met with His late Highness's fullest appreciation, and also that of Sir Acquin Martin's own countrymen, and he was rewarded by receiving the honour of Knighthood at the hands of Her late Majesty Queen Victoria, and the thanks of the Viceroy and Governor-General of India in Council.

Amongst other matters which deeply engaged Sir Acquin Martin's attention was the extension of railway communications with outlying districts, and he was a strong advocate for introducing into India light narrow guage feeder lines, and may fairly be said to be the pioneer of these railways, the utility of which has been now well established.

Sir Acquin Martin was also concerned in the development of the iron, steel and coal resources of the country, his firm being the managing agents of the Bengal Iron & Steel Co., Ld., the only works of this kind in India, and which turn out large quantities of iron and steel, equal in quality to the imported article.

Mr. RAJENDRA NATH MOOKERJEE, C.E., of the firm of Messrs. Martin & Co., Engineers, etc., Calcutta, was born at Basirhat in the year 1854. Educated at the London Missionary School and Presidency College, Calcutta. Pursued his engineering course at the Calcutta Civil Engineering College. Mr. Mookerjee commenced business on his own account in 1878 as a Contractor and did a considerable share of the work in the construction of the Calcutta Water Works. In 1889, he was associated with the then Mr. Acquin Martin of the firm of Messrs. Walsh, Lovett & Co., in a joint contract for the Allahabad Water Works, which they successfully constructed. He joined Sir Acquin Martin in the year 1892 and started the firm of Martin & Co. in partnership. Mr. Mookerjee is greatly interested in all Indian industries, manufactures, etc. He is Chairman of the Indian Store Co.

Mr. R. N. MOOKERJEE.

and Honorary Secretary of the Calcutta Orphanage, of which he is one of the founders.

Mr. EDWARD THORNTON, F.R.I.B.A., Architect to the firm of Messrs. Martin & Co., Calcutta. The town of Calcutta, as well as many other centres, owe much to the skill of Mr. Thornton. In particular there are many specimens of his art in the new business premises which are rising everywhere throughout the commercial quarters of the town of Calcutta, and transforming the aspect of the place. The offices of Messrs. Martin & Co., the South British Insurance Co. buildings, and the designs for the new Chartered Bank, etc., are all striking additions to the buildings of the town by the hand of an architect who knows how to combine utility with beauty. Many other buildings (in whose construction the architect had a freer hand) also give evidence of Mr. Thornton's skill—the Palace at Agartallah, and the Queen Victoria Memorial Hospital at the same town. The Episcopal Throne and other works at St. Paul's Cathedral, the Albert Victor Hospital, the residence of

the Maharajah of Dighapattia, the Deaf and Dumb Institute, and Mysore Memorial, give an indication of the varied nature of Mr. Thornton's Calcutta practice. Mr. Thornton won the premium of Rs. 2,000 for the Lahore General Post Office, the second premium for the Military Secretariat Competition, and also the competitions for the two district offices for the Calcutta Corporation at Alipore and Cornwallis Street.

Mr. Thornton is the son of Deputy Surgeon-General Sir James Thornton, K.C.B., of the Indian Medical Service, and was born in the year 1869, receiving his education at Queenwood College, Hampshire, and King's College School,

Mr. EDWARD THORNTON.

London. Showing a strong bent towards architectural work, and possessing considerable capacity for recognising beauty in art, with distinct leanings towards the imaginative and ornate style of the East, he was articled to Mr. Rowland Plumbe, F.R.I.B.A., and served three years with that gentleman, visiting France and Germany in the course of his studies. In the year 1891 he commenced practice on his own account, and, on passing the examination of the Royal Institute of British Architects, was elected an Associate in 1892, and a Fellow in 1904. He practised in London for some years and was associated with Mr. A. H. Ryan-Tenison, F.R.I.B.A., in several important works. In 1898 he was appointed architect to his present firm and proceeded to India. Mr. Thornton is also known as the illustrator of several books, amongst others his father's work, "Memories of Seven Campaigns," in which the experiences of the veteran were condensed.

Mr. ROOSTUMJEE DHUNJEEBHOY MEHTA, C.I.E., was born in Bombay on the 26th July, 1849. He belongs to the "Shenshais" or the Imperial class—a class which counts among its members several notabilities, including two distinguished Baronets. He received his vernacular education at a local Guzrati school, and when nine years of age was placed in the Bombay Branch school.

In the year 1860, his father, Mr. Dhunjeebhoy Byramjee Mehta, made up his mind to settle in Calcutta, and with his family left Bombay, travelling by sea, railway communication not being existent in those days between Bombay and Calcutta, for the Capital of India. On arrival in Calcutta Mr. R. D. Mehta joined the Bengal Academy, an educational institution opened and managed by the late Mr. Charles D'Cruze, an educationist of repute.

After completing his education Mr. Mehta was placed with the well-known firm of Messrs. Apcar & Company as an apprentice, his father being desirous that he should have a sound commercial training. Mr. Mehta showed considerable aptitude for business, and his steady habits, business capacity, honesty and winning manners secured for him the goodwill and sympathy of the late Mr. Seth Aratoon Apcar and Mr. A. G. Apcar, with both of whom he was a favourite.

After remaining with the firm for two years Mr. Mehta left to join his father's business, Messrs. B. Mehta & Company, which was at that time in a flourishing condition, carrying on an extensive trade with China and having a Branch at Hong-Kong. In 1870 Mr. R. D. Mehta went to Hong-Kong to manage the Branch there, and also visited Japan in the interests of the firm. In 1877 Mr. Mehta journeyed to England, the purport of his visit to that country being to purchase the machinery and plant requisite to start a cotton mill in Calcutta, an object he had in view for some little time. In the same year he accordingly started the "Empress of India" Cotton Mills, so named to commemorate the assumption of the title of Empress of India by Her late Majesty Queen Victoria in that year. Under his able supervision and careful management these Mills succeeded in producing yarns within twelve months of their establishment, and cleared cent per cent within three years of their existence.

As a public man Mr. R. D. Mehta is connected with the leading political, literary, scientific, and com-

Mr. R. D. MEHTA.

mercial societies of the land, and there are but few public movements in which he does not take a prominent part. He is also an ardent worker and a disinterested advocate in the cause of Indian progress, and there has hardly been a public meeting held since 1883 at which he has not spoken. Mr. Mehta is a Life Member of the Asiatic Society, of the Society of Arts, London, of the Albert Victor Hospital, of the India Club, a Governor of the Mayo Hospital, and several other institutions. He was one of the principal founders of the Bengal National Chamber of Commerce, and was its Vice-President from its

very commencement. He is one of the Vice-Presidents of the Indian Association, and a tower of strength to the Parsi community of Calcutta, who recognize in him their leader and the exponent of their views. Mr. Mehta is an Honorary Magistrate and Justice of the Peace for the town of Calcutta, a Visitor of the Presidency and Central Jails and has also been a Port Commissioner. In January 1893 Mr. R. D. Mehta was appointed to the high office of Sheriff of Calcutta, an appointment which was welcomed unanimously by the entire press of Calcutta, both Anglo-Indian and Vernacular, as a fitting recognition of his public services. Curiously enough on the day of his assuming office, he was called upon to open the proceedings of the large and important meeting of citizens held at the Town Hall, to protest against the Jury Notification of the Bengal Government, which duty he discharged with great eloquence, and his declaration that the movement had his full sympathy was received with acclamation. Mr. R. D. Mehta is the second Parsee who has held this high and responsible appointment. In Local Self-Government, Mr. Mehta has also made a big reputation, as or fifteen years, in fact since a Local Board was created for Alipore, he has been the Chairman of that body, whilst as Chairman of the important Manicktollah Municipality from 1901 to 1904 he has been able to raise the revenue receipts by some Rs. 20,000, and under his careful and business-like guidance the percentage of collections rose from 64 to 97 per cent. The spiritual welfare of the community to which he belongs, has always been a matter of great consideration to him, as to his venerable father, and at considerable personal expense they brought over from Bombay Parsi priests for the benefit of their co-religionists. The Masonic Fraternity of Calcutta have in Mr. Mehta a strong supporter, and he is one of the Vice-Presidents of the Bengal Masonic Association, and has subscribed liberally to its funds. On the occasion of the Diamond Jubilee of Her late Majesty Queen Victoria, Mr. Mehta was elected a Member of the deputation (as Vice-President of the Indian Association) which went to Simla to convey to His Excellency the Earl of Elgin, the then Viceroy of India, the loyal congratulations of the Princes and the people of Bengal on that auspicious occasion, and he also performed the same agreeable duty on behalf of the District and Local Boards of Alipore. In 1897, the dignity of "Companion of the Indian Empire" was conferred on Mr. R. D. Mehta, and great was the satisfaction throughout all classes in Calcutta at this honour being awarded to one of its most prominent public men, and this feeling of public approval found a fitting manifestation in a congratulatory banquet that was given in his honour on the 24th March 1898 by the leading representatives of all sections of the community.

Mr. R. D. Mehta was for some years Persian Consul in Calcutta from early in 1900 until December 1903, and but for the unfortunate incident that happened in Bushire when H. E. Lord Curzon visited that Port in the Persian Gulf, in 1903, would have probably still continued in the appointment. Mr. Mehta, however, considered that a grave breach of international courtesy had been committed by the Shah's Government, and having the courage of his opinions, and finding it inconsistent with his principles, he promptly resigned the Consulship.

The English mercantile community will feel indebted to Mr. Mehta for his able advocacy in regard to the fixity of exchange. Mr. Mehta was invited by both the Viceroy and the Lieut.-Governor to go to England as a witness for examination by the Currency Committee, but he was prevented from accepting that kind invitation by the serious illness of his aged father. Mr. Mehta was asked then to put his ideas on paper, which he did by contributing a series of letters in the columns of the "Englishman," which were presented from time to time before the Currency Commission.

Mr. MERWANJEE NANABHOY MEHTA, Merchant, 65, Ezra Street and 36, Canning Street, Calcutta, was born in Bombay in the year 1857. He was educated first at the Bombay High School, and subsequently at St. Xavier's College, Calcutta. Commencing business with a capital of nominal amount, he formed the firm of M. N. Mehta, when only twenty-one years of age, dealing in China goods. The firm from small beginnings prospered and its trade rapidly expanded enabling the founder to largely extend his operations. For a time he ran a manufacturing business in connection with the firm, but later gave this up and imported the goods he formerly made locally, from Bohemia. After over a quarter of a century of careful management directed with much commercial skill by Mr. Mehta personally, the

Mr. M. N. Metha.

firm is established in a large way of business with the Far East, especially Japan, to which country it exports Indian produce and imports Japanese products. Mr. Mehta has branches in China in the cities of Canton and Hong-Kong. In 1905, Mr. Mehta undertook a tour through America, Europe and Japan with a view to learning at first hand the resources of those countries. He is a self-made man in the best sense of the word, having built up a large and successful business without any aid except that of his own commercial integrity and business acumen.

Messrs. D. L. MILLAR & Co., Jute Balers and Shippers, Head Office, 135, Canning Street, Calcutta, established in the year 1901; agencies in London and Dundee. The Firm deals in Jute and Jute shipping exclusively. Mr. D. L. Millar is the sole proprietor of the business. He came to India in 1887 and joined a firm of merchants in Calcutta as Assistant. He remained with this firm for some years; then the time came for him starting on his own account, when he founded the present firm of D. L. Millar & Co. Mr. Millar is a Member of the Committee of the Calcutta Baled Jute Association.

Messrs. MITCHELL & Co.,—Messrs. Mitchell, one of the oldest firms in Bombay, was established in 1880 by Mr. F. Mitchell and Mr. J. N. F. Mitchell, Produce Brokers, and are now doing business as Cotton and General Commission Agents. In 1891, Mr. F. Mitchell having previously retired, Mr. Pestonjee Nusserwanjee Masani joined Mr. J. N. F. Mitchell in a partnership which continued till 1895, when the latter retired and the conduct of the firm was left entirely to the guidance of Mr. Masani. The experience gained by Mr. Masani as an Assistant to late Mr. Harry John, the leading Exchange Broker of Bombay, has borne good fruit for Messrs. Mitchell in their many connections throughout India, and the business has enormously increased with the able assistance of his brothers and sons.

The MITSUI HOUSE, TOKYO, Japan.—The Mitsui House is the centre of a group of business concerns carrying on a very wide range of business in the land of the Mikado and abroad. The head of the families, which number eleven in all, is Baron Hachiroyemon Mitsui. Its ventures include almost every branch of business, namely, Banking, Trading and Mining.

The Mitsui Ginko (Bank):—Known as such since the year 1876, the Mitsui Ginko of Tokyo is the development under modern conditions of the Mitsui exchange houses of olden days. It is at present one of the largest banking houses in Japan, and its origin dates back more than 200 years, when the members of the Mitsui family opened exchange and general banking business in Kyoto and Yedo (now Tokyo) and afterwards in Osaka under the style of the Mitsui Exchange House, which name was not changed till 1876 when the present style was adopted. The Bank was for very many years the chief, if not the sole, financial establishment in Japan, and rendered great service to the Government as well as to the commercial and industrial communities of the succeeding periods in the country. The provisions of the Japanese Banking Acts passed in the year 1876 necessitated a reconstitution of the business; hence the new style of the Mitsui Ginko. In 1893 a further re-constitution was rendered necessary by the provisions of the commercial codes promulgated in that year. But throughout these nominal changes the establishment remained virtually the same concern that has held the field for a couple of centuries. The Bank is entirely in the hands of members of the Mitsui family who as partners assume unlimited responsibility for the transactions of the concern. The following are the names of the proprietors:—

Baron Hachiroyemon Mitsui, Messrs. Gennosuke Mitsui, Hachirojiro Mitsui, Takayasu Mitsui, besides other members of the House. The present President is Mr. Takayasu Mitsui, who is assisted in the general management of the Bank's affairs by Mr. Senkichiro Hayakawa. The Head Offices of the Bank are at No. 1, Surugacho, Nihombashi-Ku, Tokyo. There are branch offices at Osaka, Kyoto, Nagoya, Kobe, Hiroshima, Moji, Nagasaki, Hakodate, Shimonoseki, Yokkaichi, and Yokohama, and other chief towns in Japan. The Bank has also agents in the chief towns in the interior, and in Formosa and Korea. The paid-up capital of the Bank is 5,000,000 yen, Reserve fund 6,300,000 yen and Deposits amount to 49,388,465 yen.

The Mitsui Bussan Kaisha.—The Trading Department of the Mitsui House is the Mitsui Bussan Kaisha which engages in general export and import trade in addition to owning and maintaining a fleet of steamers since its establishment in 1876. This concern has its head office at No. 1, Surugacho, Nihombashi-Ku, Tokyo, and the principal articles of export trade with which the Mitsui Bussan Kaisha are connected are coal, raw silk, cotton yarn, cloth, copper, silver, sulphur, camphor, matches, matting and others which are chiefly exported to England, the Continent, the United States, China and India. The firm import into Japan from abroad cotton, rice, machinery, wool, sugar, hardware, tin, and other sundry merchandise. In Japan the Mitsui Bussan Kaisha have branches in all principal cities, such as Osaka, Kobe, Yokohama, Nagasaki, Nagoya, Moji, Hakodate, Kuchinotsu and Formosa, besides numerous agents in other parts of Japan. Abroad the firm have branches at London, New York, Hamburg, and San Francisco (by the style of Messrs. Mitsui & Co.) and Bombay, Singapore, Sourabaya, Hongkong, Manila, Shanghai, Canton, Amoy, Tientsin, Chefoo, Chemulpo, Seoul, and other chief ports of the East. They represent in Japan several leading European and American Houses of business and hold the agency abroad for the principal Japanese Insurance Companies, Collieries, Cement and Paper factories. The Managing Director of the Company is Mr. Senjiro Watanabe who assists the President of the firm, Mr. Hachirojiro Mitsui, in the general management. In British India, the Bombay branch office which is situated at Telephone Buildings, Home Streat, Fort, Bombay, deals in the export of Indian cotton and wool to Japan as its chief business, besides the export of Indian cotton yarn to Hongkong and China, the export of Indian cotton to the Continent, and the export of Japanese sundries, such as matches, silk, matting, camphor, etc., besides import of Java sugar into India. Lately the firm has despatched their own agent to Calcutta for the extension of business where the prospect promises well. The Bombay Branch Office was established on the 5th March 1893, and the volume of business is increasing year by year.

The Mitsui Mining Co.—The mining concern carried on by the Mitsui House is the Mitsui Mining Company, which conducts mining business on a considerable scale chiefly in coal, but including silver, copper, sulphur, and other minerals.

The well-known Miike coal is produced by the Company's Colliery of the same name in Kiushu, and is the best steaming coal in Japan. Besides its mines in working the Company has many concessions at present unworked and its prospects are very promising. The Mitsui Bussan Kaisha act as the sole agents for the output of the Company's mines. ThePresident, Mr. Saburosuke Mitsui, is assisted by Mr. Takuma Dan, Managing Director of the Company, in its general management. The Company's Head offices are at No. 1, Surugacho, Nihombashi-Ku, Tokyo.

All the offices belonging to the above three concerns of Mitsui in Tokyo are now brought under one roof, and a handsome new building at No. 1, Surugacho, Nihombashi-Ku, Tokyo, is one of the ornamental features of the Capital of Japan.

Mr. THOMAS DURIE MOORE, Chief Agent to the New Mofussil Company, Limited, Hummum Street, Fort, Bombay, is the eldest son of Mr. Thomas Henry Moore, the late Chief Agent of the New Mofussil Company, one of the oldest merchants in Bombay, who died in Bombay in December 1903.

Mr. T. D. Moore was born in London in the year 1876 and was educated at the Birkenhead School, in Cheshire. In 1893 he started in the firm of Messrs. Moore Brothers and Company, Liverpool, which was the corresponding firm of Messrs. T. H. Moore & Company, Bombay, of which he is now sole partner. In 1904 he joined Messrs. J. P. Alpe & Co., London, Merchants, and in October of the following year he came to India and joined the New Mofussil Company in Bombay as a junior assistant since which time he has risen to be their chief agent.

Mr. Moore is also a Director of the Bombay Cotton Trades Association. He takes a keen interest in sport of all kinds, and, as a member of the Bombay Gymkhana Rugby Football Club, has played for about nine years, on various occasions captaining the team. Mr. Moore is also a keen follower of the Bombay fox-hounds, and in the annual Point-to Point races is one of Bombay's most prominent cross-country riders.

Messrs. MORAN & Co., Indigo and Produce Brokers, No. 3, Mangoe Lane. Stanislaus Moran, sole proprietor. This is one of the longest

Mr. J. G. MEUGENS.

established houses in this line in Calcutta. It directly carried on the business of the old house of Hickey Bailey & Co., after the cessation of the latter in 1849. The firm of William Moran & Co. was started in that year by Mr. Wm. Moran, whose experience in Indigo was gained as an Indigo Planter in Champarun. The Indigo Department of the firm was at first under the management of Mr. Francis Bailey. At a later date, Mr. Charles Estcourt Cresswell was taken into the firm and took charge of the Indigo Department. The partners at this time consisted of Mr. William Moran, Samuel Pryce Griffiths, Charles Estcourt Cresswell and James Murdoch. In 1866, Mr. Cresswell retired from the firm. Mr. J. G. Meugens joined the firm as partner in his place in 1873. Mr. Meugens had been an Assistant since the year 1863 and became Auctioneer to the firm in 1866, and has acted in this capacity for Moran & Co. ever since. Mr. William Moran, the founder of the firm died in 1894, but his interest was carried on by his son, Mr. Stanislaus Moran, who had gained experience in the Indigo department for some years previously. Mr. Meugens retired from his partnership in the firm in the year 1892, but his services in the Indigo department were still retained. In 1896 the old established firm changed for a brief period to the style of Baines & Co., but in 1898 reverted to the name of Moran & Co., with Mr. Stanislaus Moran, proprietor, Mr. J. G. Meugens carrying on the business as Manager. Mr. Julius Gerard Meugens is the second son of the late Peter Joseph Meugens of Mincing Lane, a well-known broker. He first entered the indigo trade in the year 1855 under the direction of Mr. John Gerard Wich, at the time Belgian Consul in London. He joined a firm of produce brokers in Mincing Lane in 1859, and after serving with them for a couple of years he came out to India as indigo buyer for the firm of Rutz, Rees & Co. in 1862. This firm closing its business in the following year, Mr. Meugens joined the firm of Moran & Co., and has remained with them ever since. He is one of the doyens of Calcutta residents having been established here for forty-four years.

Mr. SILAS MEYER MOSES comes of a great Jewish family, equally well known in Europe and Asia—the Sassoons—being the son of the

Mr. S. M. MOSES.

eldest daughter of the late Mr. David Sassoon, the founder of the commercial house of that name. There is a tradition that the Sassoons

are of the house of King David, but authentic history first mentions them as leaders of their community in Toledo, from which city they fled to escape persecution, and settled in Baghdad, where they have always been distinguished for their wealth and high character. The development of British India led to the migration hither of many of the more prominent Persian Jews, among them Mr. David Sassoon, who as head of his community in Bombay in the stormy days of '57, did much to quiet the apprehensions of that city, by proffering the services of himself and his co-religionists to the Government at a moment when many were wavering. Mr. S. M. Moses was in school at this time, and after completing his course at the Elphinstone Institution proceeded to China, in 1862, where for many years he was managing partner of the firm of David Sassoon, Sons & Co. It was here that Mr. Moses had his first taste of public life, being, for a large part of his stay, on the Finance Committee of the Municipality of Shanghai, and taking a constant interest and active part in the administration of that progressive and cosmopolitan settlement.

He left China in 1880, and, after a tour in Europe, returned to Bombay and joined the firm of David Sassoon & Co., shortly afterwards marrying Rachel, daughter of the late Mr. Abraham, a lady who up to the time of her death (14th July 1905) took a prominent part and assisted her husband worthily in all works of charity and social advancement.

On the death of his uncle, Mr. S. D. Sassoon, Mr. Moses succeeded to the Directorate of several public Companies and membership of other bodies, including the Bank of Bombay, the Port Trust, the Oriental Life Assurance Company, and the Sassoon Industrial and Reformatory Institution. As President in 1898, his services were particularly valuable to the Bank of Bombay at a time when the transition from a silver to a gold standard caused novel fluctuations in the money market which puzzled experienced financiers.

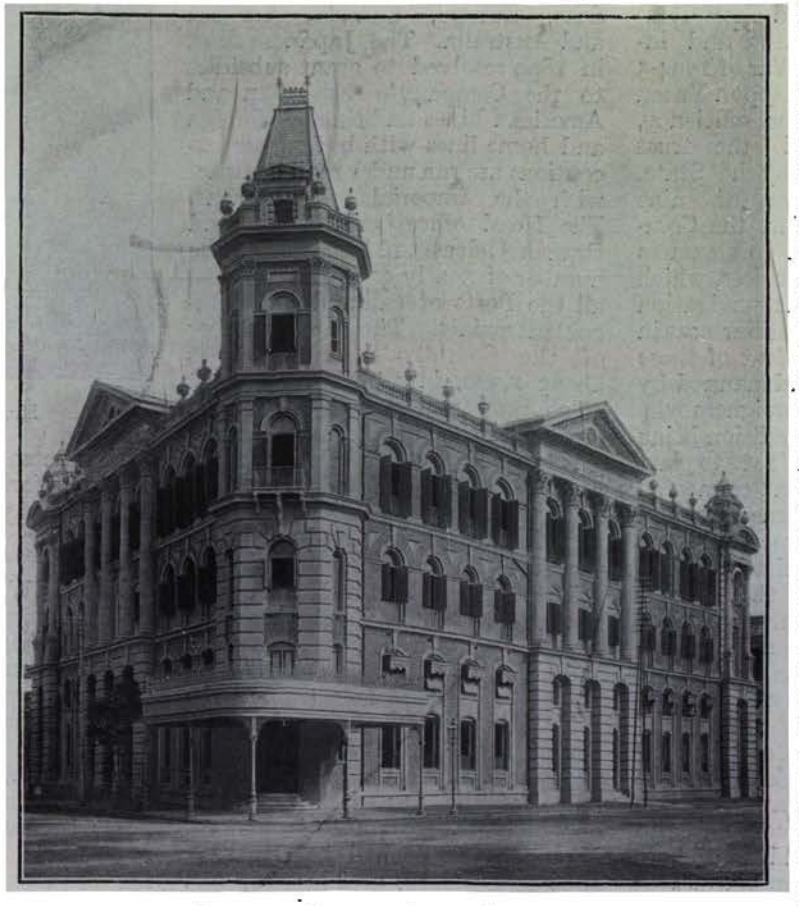
He was re-elected to this distinguished office in 1900-1902, and again in 1905. It is needless to say that a man of Mr. Moses' varied knowledge of international trade is not a Silverite. He is a prominent member of the Chamber of Commerce, and on not only commercial but on all matters affecting the public weal, Mr. Moses has always spoken out strenuously and with all the weight of his experience and judgment. In recognition of his interest in education, Mr. Moses was nominated a Fellow of the Bombay University in 1899, and he was nominated a Member of the Bombay Legislative Council, during Lord Sandhurst's administration in the following year, and was re-nominated in 1902 by H. E. Lord Northcote; being the third representative of his race to receive this honour, his two predecessors being also members of the same business house. Besides his responsibilities as head of his firm and the public work already mentioned, Mr. Moses finds time for many other duties. He was one of the Justices of the Peace, who in the early days of the plague in Bombay, went from house to house with the search parties, using his great influence with the natives to calm the resentment which this measure provoked. He has served on the recent Presidency Famine Funds, and is a trustee for the Bombay branch of the Countess of Dufferin Fund. Mr. Moses was a recipient of the Coronation Medal and was one of the Honorary Magistrates lately appointed by Lord Lamington.

Sir HURKISONDAS NURROTUMDAS, *Knight*, was born in November 1849, and is an influential and representative citizen of Bombay, being one of the largest Mill-owners in the Presidency and Chairman of several cotton manufacturing companies. He has done a great deal and worked energetically for the benefit of the country, especially in the beneficent efforts which have been made for providing medical help for the women of India. Like his father, he is very charitable. He assisted in raising funds for bringing out the first lady Doctor from England, and the excellent work carried on for several years by Dr. Pechey Phipson was the result of these efforts. The inauguration of the Dufferin Fund followed, and as Lady Reay took the lead in this movement, Sir Hurkisondas further helped by founding in her name a scholarship in the Bombay University and a Gold Medal to be awarded annually to the best lady graduate in the L. M. & S. examination. As a Member of the Committee formed by Dr. Pechey Phipson for establishing a Sanitorium at Nasik, he assisted by contributing a number of buildings, and also gave assistance towards the Leper Asylum at Matunga. The chief of his good works is the New Lunatic Asylum at Nawapada which bears the name of his late father, and is a generous gift the benefits whereof will be continued through future generations. He has been an intelligent and painstaking Member of the Municipal Corporation since 1878, and was appointed Sheriff of Bombay in 1902. As a Secretary or Member of various Committees he always worked for the promotion of various good objects. After the Coronation Durbar at Delhi he had the honourable distinction of Knighthood conferred on him by His Majesty the King-Emperor.

Sir HURKISONDAS NURROTUMDAS.

Mr. CHARLES NICOLL, Manager of the National Bank of India, Ld., Calcutta Branch, was born at Kirriemuir, in Forfarshire, Scotland, in the year 1865. In 1884, he joined the London office of the National Bank of India, Ld., and, after two years' service there, was appointed to the Bank's branch at Bombay and came out to India in 1886. Mr. Nicoll became Manager of the Branch in Calcutta in May 1904.

THE NATIONAL BANK OF INDIA, Ld., Calcutta. Established in 1863 in Calcutta. This Bank has during its career of upwards of 42 years rapidly expanded until now it is one of the largest and most important banking institutions in the East. The Head Office is in London, where it was registered under the Companies' Act of 1862 in March 1866, and the extent of the Bank's operations and influence on the trade of India, Burma, Ceylon, and East Africa, may be gauged by the number of its branches established throughout these countries, there being nine in India, two in Burma, three in Ceylon and three in East Africa, as also two at Aden. In former years the Bank also had branches in Hong-Kong and Shanghai, but these were relinquished some twenty-five years ago, the Bank confining its operations to India and the countries above mentioned. The Capital of the Bank is £1,000,000, of which one-half is paid up, and it has a reserve fund of £500,000. The 75th report by the Directors showed a very satisfactory state of affairs obtaining for the year ended 31st December 1904. After paying to its shareholders the substantial dividend of ten per cent, and allowing for considerable sums being put to the credit of House Property Account, and the Officers' Pension Fund, a large surplus still remained at the credit of profit and loss account. The major portion of this surplus has been returned to the shareholders in the unique way of distributing amongst them one Bonus Share of £25 (on which £12 10s. is credited as paid up) to each five shares held, thus practically making a free present of a one-half fully paid up share to each holder of five shares. Few banks trading in the East have been thus able to reward so substantially the confidence of its shareholders, and that the National Bank of India has done so speaks highly for the strength of its financial position and the soundness of its management both at home and abroad. Of course, this issue of bonus shares somewhat alters the capital account of the Bank, increasing the Subscribed Capital to £1,200,000 and the Paid-up Capital to £600,000. Amongst the names on the Board of Directors are those of several gentlemen of lengthy Indian experience, and who are also deeply interested in the commercial progress and welfare of India, and to their extensive knowledge of the trade requirements of the country, much of the success of the Bank's career is due. For many years the Bank's premises in Calcutta were situated in Government Place, but the expansion of business necessitated, in 1902, a removal to more spacious offices in Clive Street, where they are now more centrally and conveniently situated.



NATIONAL BANK OF INDIA, CALCUTTA.

The NIPPON YUSEN KAISHA (Japan Mail S. S. Co., Ltd.)

"The Nippon Yusen Kaisha" took its name in 1885 on the amalgamation of the only two rival steamship Companies in Japan at that time "The Mitsubishi Kaisha" or "Three Diamonds Company" and the "Kyodo" Unyu Kaisha" or Union Transportation Company. From 1885 onwards for the following nine years the great bulk of the Coastwise carrying trade was performed by the Fleet of the "Nippon Yusen Kaisha," regular services being maintained between Kobe and Vladivostock, Kobe and Tientsin *viâ* Korean Ports and Yokohoma and Shanghai. In 1892 when the rapid development of the Cotton Spinning Industry in Japan rendered important the question of procuring a supply of raw cotton, the Company established a Steamship service between Japan and Bombay, their vessels also making frequent voyages to Australia and Hawaii, carrying emigrants. Throughout this era, the Company received from the Treasury a yearly subsidy, in consideration of which it was pledged to maintain several mail routes, to place its vessels at the disposal of the Government for transport purposes, should occasion for such a step arise, and generally to carry Mails between the Ports to which its Steamers plied.

In 1894, when war broke out between Japan and China, the latter had to despatch large bodies of troops to Korea, to Manchuria, to China Proper and to Formosa. At one time the Armies of the Empire beyond the sea aggregated a hundred and twenty thousand fighting men together with a hundred thousand land transport coolies. Such an effort severely taxed the shipping

resources of the country. Nearly all the large steamers of the Nippon Yusen Kaisha had to be detached for public service, and it became necessary to purchase many others, not only for the purpose of augmenting the fleet of transports, but also in order to obviate any prolonged interruption of the regular marine carrying trade. Many of these newly acquired steamers ultimately remained in the hands of the Nippon Yusen Kaisha. In fact, just as the Formosa Expedition of 1873 had greatly raised the Mitsu-Bishi Company's status and increased its fleet, so the War of 1894-5 finally established the Nippon Yusen Kaisha's reputation for efficiency, and amply justified the trust hitherto reposed in it by the State. Throughout the space of nine months during the War, the Company had no less than 50 steamers engaged in transport services, which involved the constant navigation of dangerous and unfamiliar seas in the depth of winter. Most of these ships were officered and manned by Japanese, only a few foreigners who volunteered for the expedition being employed. Yet from 1st to last only one serious accident connected with navigation happened to any of these ships. There could no longer be any doubt that the disability under which the nation laboured at the commencement of the Meiji era had been removed, and that the Japanese were now competent to navigate and manage sea-going steamers.

The successful issue of the war naturally gave a marked impetus to maritime enterprise and the Executive and Legislature combining to foster that useful tendency, laws were passed granting special aid to Navigation and Shipbuilding. The Company therefore resolved to greatly extend its field of operations. It increased its Capital to 22 million yen, and determined to establish regular Steamship services to America, Europe and Australia. Orders were accordingly given for the construction of twelve twin screw steamers of over 6,000 tons for the European line, and three ranging from 3,800 to 5,500 tons for the Australian line. With such a Capital, with Reserves aggregating over eleven millions and with a fleet of 78 Steamers aggregating 260,000 tons gross, the majority of them new and provided with every resource for contributing to the comfort of passengers and every modern facility for the carrying trade, the Nippon Yusen Kaisha now ranks among the greatest enterprises of its kind in the world. The regular services maintained by it independently of its lines between all the principal ports in Japan are with China, Korea, Formosa, Asiatic Russia, the Straits Settlements, India, the Red and Mediterranean Seas, Europe, Canada, America and Australia. The Japanese Diet in 1899 resolved to grant subsidies to the Company's European and American Lines and thus all foreign and home lines with but a few exceptions are run under mail contract with the Imperial Government. The Head office is in Tokio and Branch Offices and Agencies to the number of nearly 90 are situated at all the Ports of call and other important points. The total number of the Company's employees is about 1,380, in addition to about 4,800 representing crews, firemen, etc. The President, Mr. R. Kondo, was elected by his Co-Directors, was re-elected in 1902 at the expiration of the fixed term of presidential service; and again, for the third time, in November 1905.

The Nippon Yusen Kaisha now contemplate a permanent steamship service between Japan, Rangoon, and Calcutta.

T. KUSUMOTO, General Manager of the Nippon Yusen Kaisha (Japan S. S. Co.), Bombay. The office of the Japanese Company of which Mr. Kusumoto is General Manager was opened in the year 1896 at Bombay, and in 1897 Mr. Kusumoto took charge of it. The Company formerly ran some three steamers in a monthly service which was afterwards turned into a double service. The running of these steamers was suspended since June 1905 when the Japanese Government took them over. Since that time the Company has been doing business with monthly chartered boats with which they have replaced their own steamers. The Nippon Yusen Kaisha is the contractor to the Japanese Cotton Mills Association. The amount of business that passes through their hands is represented by about 6 lakhs of bales of cotton shipped yearly to Japan. Mr. Kusumoto has held various positions in the Company, having been connected

Mr. T. Kusumoto.

with it some 20 years in Korea and Tokio before coming to Bombay. The Bombay service was resumed in April 1906.

The NEW YORK LIFE INSURANCE Company, a little while back celebrated its sixtieth anniversary by a convention which included representatives of its field force from all over the world—a fitting and appropriate celebration of the success it has achieved, which both in extent and in character has probably never been surpassed in the history of business. In methods of securing business, in the internal machinery of an office equipped to carry an almost unlimited burden—in the attitude of the corporation itself towards its constituent members, and to a large degree in its theories of investment of the policy-holders' money, the past ten years have placed the New York Life Insurance Company in a class by itself.

The membership now is over 1,000,000.

The New York Life Insurance Company has a large membership in every civilized country in the world, and files its annual report

with each one of these Governments. Years ago the figures entering into the annual statements of the Company were described as stupendous, but still they continue to increase, in fact the figures can only be properly understood by reducing them from a yearly to a weekly or even a daily basis. The Company invests no money in stocks. President McCall in an address said:—"Trust Funds of a Life Insurance Company must not be risked in speculation, and so I predict that, regardless of the permission granted by the laws of the several States and Governments under which we are operating, the New York Life Insurance Company will never again be the owner of stocks." The Company sold in 1901 all its stocks. Of the vast aggregate of more than 250 million dollars invested in bonds by the Company, not one dollar of interest is in default, a showing as remarkable as it is creditable. The Company is a Mutual Company, its policy-holders own the Company and alone receive the profits of the Company. The Company is managed by the policy-holders through a Board of Trustees. The Trustees consist of 24 elected persons who are responsible to, and are the direct representatives of, the policy-holders of the Company. The management of the Company's affairs is carried on by six standing Committees approved by the Board of Trustees. These Committees have in hand the detailed management of the affairs of the Company, the duties of each Committee being defined and each Committee having to make regular reports to the full Board once a month. The Trustees manage the Company's affairs, therefore, through Committees appointed by them, solely for and in the interest of policy-holders. The marvellous success of the New York Life pays tribute to the wisdom of the Trustees now and in days gone by. As the protector of one million families, the New York Life's watchword is "Publicity." Its annual statement gives a schedule of every mortgage held by the Company with an exact description of the property on which each mortgage is held, and welcomes any communications with reference to these properties. The properties owned exclusively by the Company include some very fine buildings in New York, Paris, Buda Pesth, Berlin, Vienna, Amsterdam and Montreal. In 1884 Mr. C. Seton Lindsay came to Calcutta and opened out an agency with one of the leading mercantile firms of the city. He then travelled through the East opening out the Company's work in China, Japan, Java and the Straits Settlements, returning a year or two later and starting a Branch Office, from which he controlled the whole work of these countries. To Mr. Seton Lindsay is due the foundation of the work in the East which, with hard work, great tact (and added to these, a charming personality), he made so secure. Early in 1892 under medical advice he decided to give up the management, and handed over to Mr. George Lane Anderson the control of India, Burma and Ceylon. Proof of the growth of the work is a record of 36 lakhs of business in the first three months of 1905, which gives some idea of the success that has been achieved and of the possibilities of the future. Mr. Geo. Lane Anderson, in addition to the onerous duties of his appointment as representative of the Company, has found time to encourage volunteering amongst the European assistants of the Banks and Mercantile firms, starting a Cycle Company, which now numbers nearly fifty members; he is an Honorary Presidency Magistrate, and a leading Freemason in Bengal, and at present Deputy District Grand Master of the Grand Lodge of Bengal. The Company under him has active branches in Bombay, Madras, Rangoon and Colombo, and gives employment to some hundreds of agents throughout India, Burma and Ceylon.

THE NEW YORK LIFE INSURANCE COMPANY BUILDING, NEW YORK.

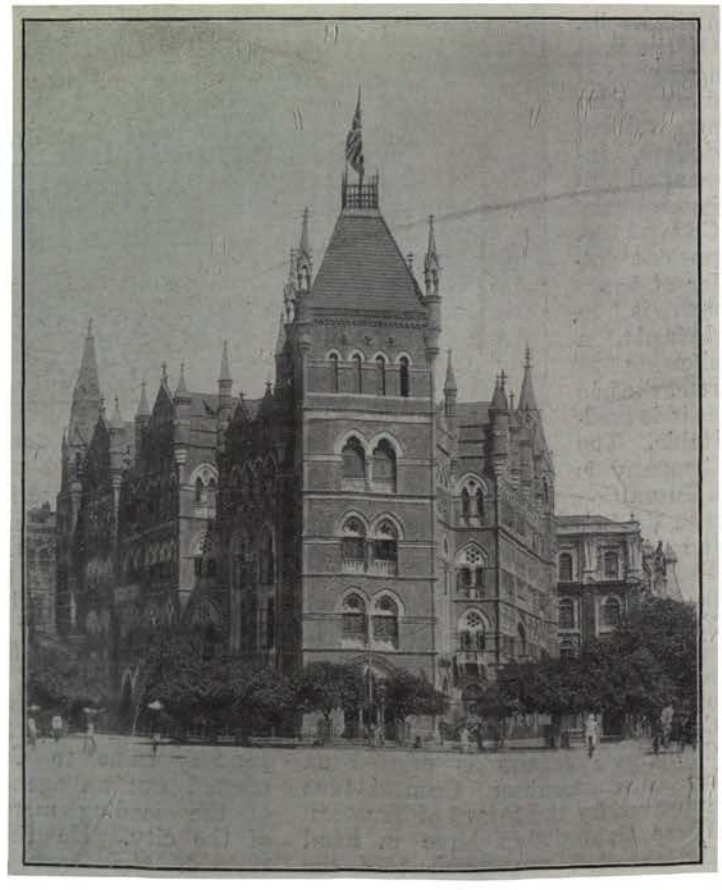
Mr. JOHN NICOLL, Chairman of the Indian Jute Mills Association, comprising all the jute mills in and near Calcutta, was born in the County of Forfar, Scotland. He was educated at the Arbroath Academy,

Mr. JOHN NICOLL.

Arbroath, and began his business career in that place in the Bank of Scotland, from which he was transferred to the Dundee Branch in 1883. Two years later he came out to India on the staff of Messrs. Thos. Duff & Co., Ld., Merchants, etc., and after passing through the various departments in this large house he assumed sole charge in 1898. Through his energy and management the business of the firm has largely increased, and they now control over 3,000 looms and do a flourishing business in the jute spinning and manufacturing trade. He has on five occasions been elected to the Chairmanship of the Indian Jute Mills Association. He has always taken an active interest in Municipal affairs in Jute Mill areas. His efforts were especially directed to the condition of the mill workpeople, on whom he has been able to confer great benefits. He is also known for the interest he has shown in charitable institutions, sport, etc.

The ORIENTAL GOVERNMENT SECURITY LIFE ASSURANCE Co., Limited. The history of life insurance in India is one, speaking generally, of considerable timidity on the part both of the Insurance Companies and of the public. The companies were frightened by a dangerous climate, and so impressed by the comparatively short tenure of existence which the statistics revealed as being usually attained by the natives of the country, that, even to this day, some companies will not do business in India.

It may be said, with little risk of being inaccurate, that thirty years ago life assurance was practically unknown to the natives of India, while Europeans had to pay heavily in the shape of special premia for the privilege of living in an objectionable climate. If lack of reliable vital statistics, fear of fraud, and the uncertainty which, in those days always surrounded the ages of natives, tended to quench the little enterprise which Insurance Companies showed in India, the absolute apathy and disinclination to spend money in a new and incomprehensible direction displayed by Indians, formed an equal hindrance to this most benefident of businesses. It is not to be wondered at, then, that when, in 1874, the late Mr. McLauchlan Slater proposed to start an Indian Company which should embrace within its liberal conditions all classes of the very mixed community, those critics who did not laugh, sympathetically mourned, and prophesied a short life for the Company. However, Mr. Slater had the courage of his opinions and floated his Company. He had carefully preparedthe ground, the rates were adjusted exactly to the known conditions of risk, and all lives proposed were subjected to the rigid scrutiny which alone could justify the acceptance of all sorts and conditions of men as assurers. The result was success from the beginning, though at first it was so moderate compared with what it has latterly been, that the progress of the Company resembles, on a general view being taken of it, that of an avalanche of increasing business. At the beginning of the year 1905 the number of policies in force amounted to 43,356, assuring, with bonus additions, Rs. 8,88,02,223. The need and the fact of the careful examination of lives offered still existing, is shown by the rejection of about 1,500 out of 6,381 proposals made during last year. The issue of 4,790 new policies in one year, however, is a thing almost undreamt of thirty years ago, and the continual pushing of the Company's business by a number of well-managed agencies has been largely helped by the solid fact the agents have had at their back, that the whole of the Company's funds, amounting now to



ORIENTAL BUILDING, BOMBAY.

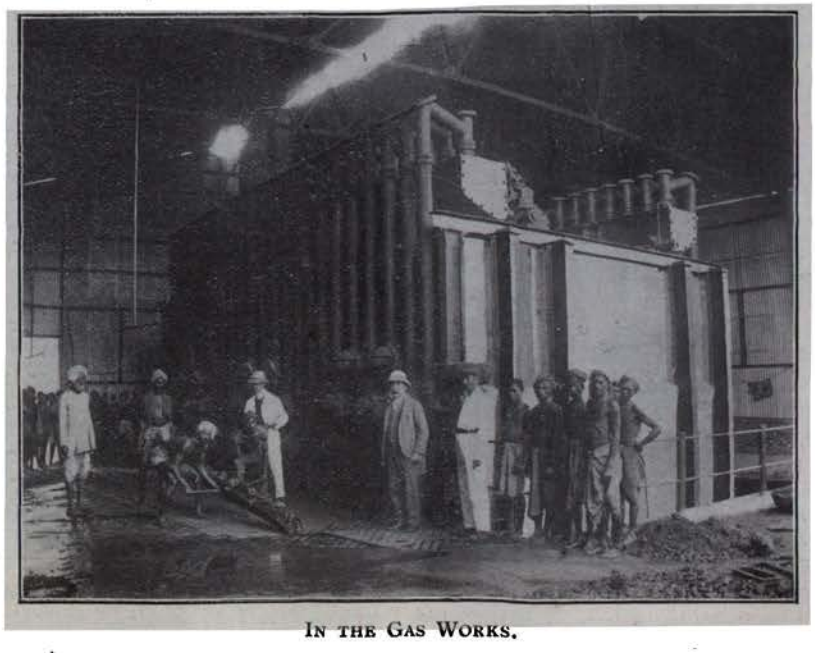
twenty-five million rupees, is invested in Government or other absolutely unquestionable securities. By far the greater part of the Company's investments are in Government Paper, about Rs. 5,50,000 being in the more remunerative Municipal debentures and Port Trust Bonds of Bombay and Karachi, Rs. 9,50,000 in loans on policies, and nearly five lakhs in house property.

The city is indebted to banks and Insurance Companies for many fine buildings, and few are more striking, either in design or in situation, than that of the Oriental Life Office, which was completed in 1898 at a cost of over four and a half lakhs of rupees. The buildings are one of the last architectural works of the late Mr. F. W. Stevens, whose skill has done so much to make Bombay the handsome city it is. The late Mr. Slater did not live very long after the Company had been installed in its present home, but he saw the Oriental established on the firm basis of ample funds and economical management. Mr. R. Paterson-Brown, who had been with the Company for some years, and who had spent his life in learning the business in one of the leading British Companies, became manager on the death of the founder, and under his care the traditions of the Company have been well maintained, and its prosperity has greatly increased. That the Oriental has been eminently successful in its original object of popularizing life insurance among the natives of India is shown by the fact that of nearly 700 death claims paid in 1905, not ten per cent were Europeans or Eurasians. The great majority were Hindus, with a proportionate number of Parsees. The Mahomedan community do not show signs of such speedy economic conversion. This, no doubt, is due partly to the fatalistic religious outlook of the older school, and partly to the very general poverty of the greater number.

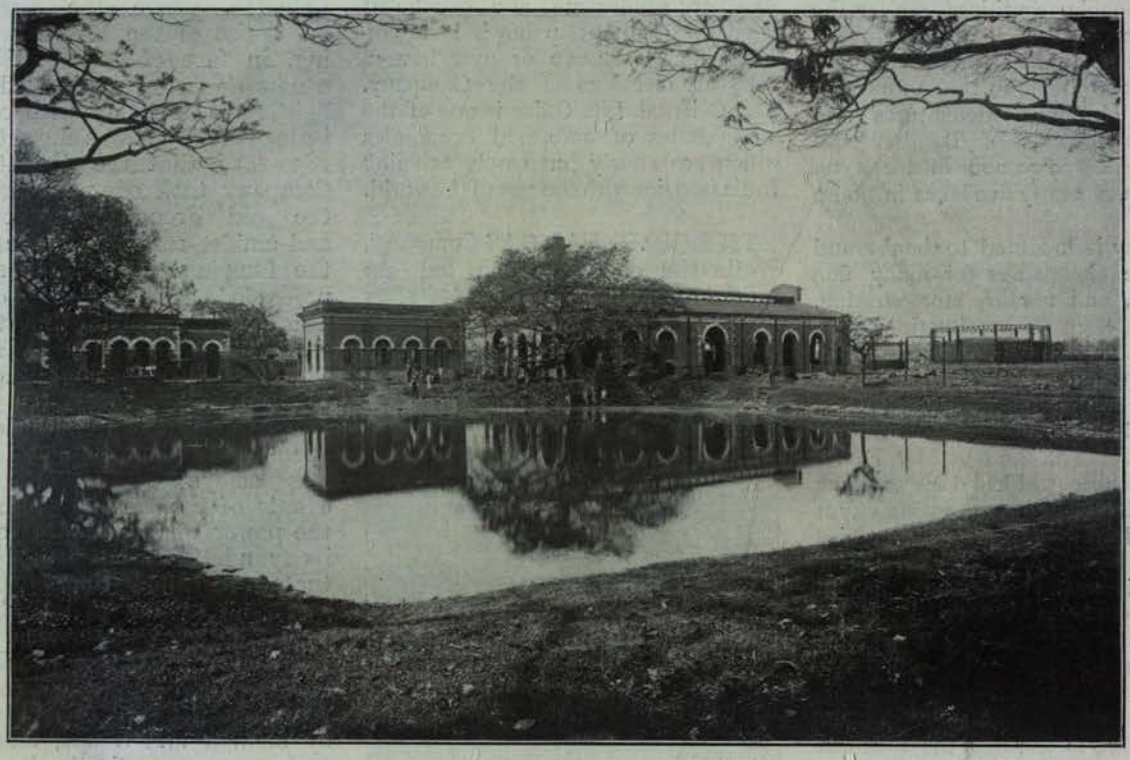
The Oriental Office has many features beyond its table of rates to recommend it, to dwellers in India. Some of these, such as the security of its investments, have been already mentioned; others may be mentioned here, such as the wholesome rule that 90 per cent of the profits, after providing for the reserve fund, is divided among the policy-holders—a generous policy, but one that did not prevent the Directors from being able to secure for the shareholders a dividend of 12½ per cent on the last year's working (1905). Another wholesome and beneficent regulation is that policy-holders insured for Rs. 4,000 or over have a vote at meetings of the Company. The Oriental Life Office is one of the missionaries of reformed economics which are slowly but surely bringing India into line with the rest of the world.

THE ORIENTAL GAS Company. While the events which led up to the great Mutiny of 1856-1857 were maturing in parts of India, another day was dawning for Calcutta, where the commercial enterprise of the Briton was taking, in face of many difficulties, a new departure which led to the lighting of the City with coal gas instead of oil. It was about the year 1856-1857 that the Oriental Gas Company took over the works of the old French Gas Company, and amidst rumours and anxieties the founders slowly and steadily proceeded with the work of erecting a station for supplying Calcutta with gas. This was situated in Halliday Street, about the spot where the pumping station of the Corporation of Calcutta now stands. The opening of the completed works was delayed owing to the terrible events of the Mutiny which shook the power of England in India to its foundations, but happily eventuated in calmer times. Old residents tell of the period when the law of curfew was prevalent in Calcutta, and when the people were warned to keep to their houses at night, and the streets were guarded by cannon and troops, and black darkness was practically all over the City. At the close of 1857 events were clearing, and as the victories of General Havelock and the Relief of Lucknow became known in Calcutta, the Town soon resumed its normal activity, and the busy Briton once more betook himself to his work.

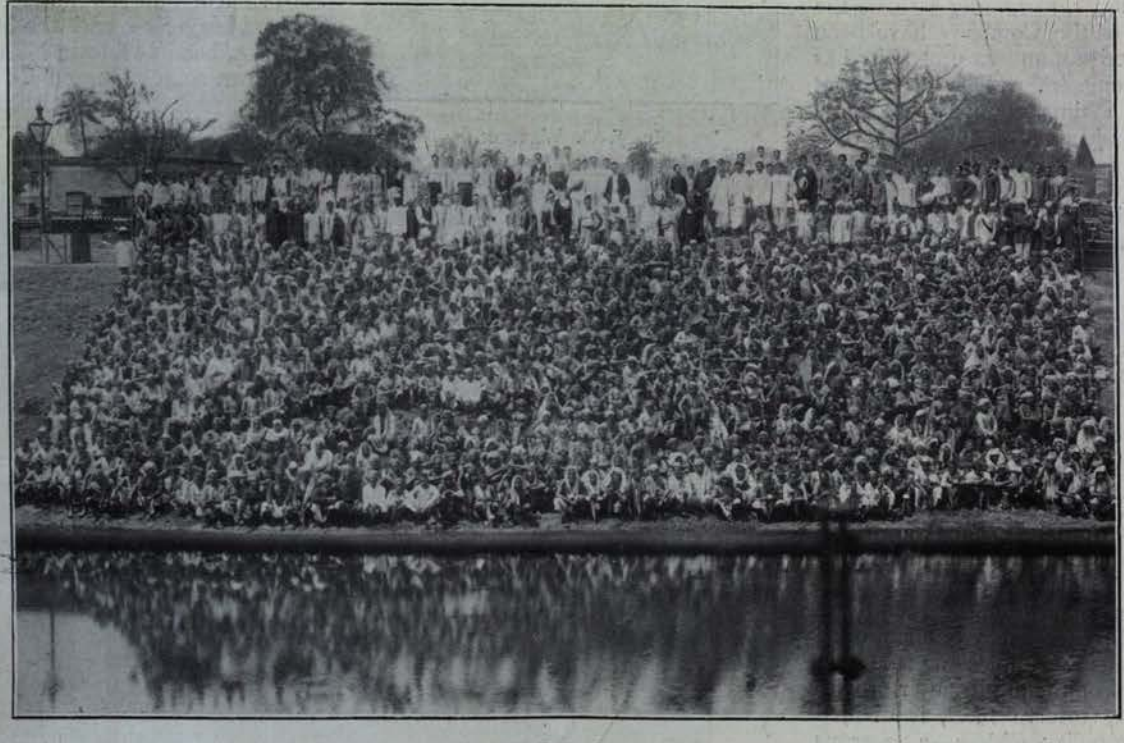
Mr. J. C. WATSON.



IN THE GAS WORKS.



GAS WORKS, HOWRAH.



THE ORIENTAL GAS CO.'S STAFF AND WORKMEN.

The Act No. V of 1857 passed the Legislative Council and received the assent of the Governor-General on the 13th February 1857, and immediately after the Mutiny was quelled the gas works commenced operations. The first inception of gas was new to the native inhabitants, and it was only with persistent effort that progress could be made, as the Aryans viewed its advent with considerable suspicion. Some enlightened Hindus were bold enough to take the new form of lighting, and since then there has been no fear of any loss of caste or other injury to the sects. Like most things in India progress was slow, but in the Jubilee year of the Company's existence it is interesting to note that the original works have long been demolished and the works removed to a larger site at Sealdah, while new works have arisen at Howrah for lighting the other side of the River Hooghly. A greater rate of progress is now being made, and "The City of Dreadful Night" is now a well-lighted one, and more fit to take her place in the words of the late Sir John Woodburn as "Queen of the East." In point of population the City of Palaces takes second place in the dominions over which our beloved King rules, and it is noteworthy that the whole of Calcutta and Howrah is lighted with gas by one Company and not, as was the case in London, with several Companies, whose efforts to obtain customers proved so ruinous to the streets, that by law each Company was confined to its own District. From a very small beginning the Oriental Gas Company now supplies over 300 millions of cubic feet of gas annually. To do this it requires about 400 miles of gas mains which supply gas to private residents and to 10,000 street lamps. The Company employs a staff of about 1,100 men, of whom only five are from the old country. The Company uses over 30,000 tons of Indian coal annually and was the first to give a fillip to the important coal industry in India. The capital now stands at £300,000. The present Chief Engineer and Manager is Mr. James Clarke Watson, who joined the Oriental Gas Company early in 1897, and took over full charge from Mr. Coates-Niven two and a half years ago. He was previously connected with one of the largest gas companies in London, and, having a knowledge of the most recent practice in gas-lighting, has conveyed his experience to Calcutta, and in the last two years a great development has taken place in the improvement of the lighting.

The Works at Sealdah have been recently remodelled, and large preparations have been made for the anticipated increase of business. The storage of gas will be doubled during the next two years and will be ready to hold its own against any other form of lighting both for efficiency and economy.

The London Board of Directors are as follows :—

R. Hesketh Jones, Chairman; H. D. Ellis, R. Miller, A. T. Eastman, and W. Williams. Secretary—H. J. Luff. Bankers—Lloyd's Bank Ltd., London. Town Office—25, Chowringhee. Works Offices—Gas Street, Sealdah, and Grand Trunk Road, Howrah. Chief Engineer and Manager—J. C. Watson. Assistant Manager—J. W. Mackay. Auditors—Lovelock and Lewes. The London Office is Finsbury House, Blomfield Street, E. C.

Items.

Change from old form of flat flame lighting to incandescent burners —May 1901.

Introduction of high power lamps —1903.

Sir PATRICK PLAYFAIR, *Kt.*, 1897; C.I.E., 1896; son of the late Patrick Playfair of Dalmarnock, Lanarkshire, and Ardmillan, Ayrshire, by Georgiana, daughter of the late John Muir of Glasgow. Born 1852; married November 1903, Frances Sophia, daughter of John Harvey of Carnousie, Banffshire, and 5, De Vere Gardens. Educated at Loreto School and Glasgow University. Is member of the firms of Barry & Co., Calcutta, and J. B. Barry & Son, London. Has been Vice-President and President of the Bengal Chamber of Commerce and Mercantile Member of the Bengal Legislative Council; Additional Member of the Legislative Council of the Viceroy and Governor-General of India, 1893-7; Sheriff of Calcutta, 1896. Residence, 2, Ennismore Gardens,

Sir PATRICK PLAYFAIR.

London, S. W. Clubs—Oriental, Wellington and Bengal (Calcutta).

Messrs. PERMAN AND HYND, Gunny Brokers, 23, Strand, Calcutta. This firm was established in the seventies under the name of Koch Brothers, and afterwards amalgamated with the firm of Trotter & Perman and styled Koch & Perman in the year 1888. Upon the retirement of Mr. Simon Koch in 1893, the style of the firm was changed to its present form of Perman & Hynd. The firm deal exclusively in Jute fabrics. Mr. David Hynd, the senior partner, was born in Dundee, Scotland, in 1863, and educated at Dundee High School. He received his first business experience in the firm of David Martin & Co., of Dundee, Flax and Jute Goods Merchants, with whom he remained for five years, commencing with 1878. He proceeded to India in 1883 and joined Messrs. A. W. Hurle & Co., Jute Commission Agents, Serajganj, with whom he remained about six months. Coming to Calcutta he then joined the firm of Koch Bros., the original firm of Perman & Hynd, with which he has been connected ever since. Mr. Hynd is the Chairman of the Jute Fabric Brokers' Association.

Messrs. HERBERT, PARROTT & Co., Wine and Spirit Merchants, 4-1, Government Place, N., Calcutta. —This well-known and enterprising firm was established at 7, Church Lane, Calcutta, in the year 1893, by Mr. W. J. E. Herbert and Mr. F. H. Parrott. Mr. Parrott has since deceased and Mr. W. J. E. Herbert some few years ago retired in favour of his son, Mr. L. W. A. Herbert, who also severed his connection with the business at the end of 1904. The firm has since been carried on by Mr. W. H. Humphries. This gentleman has had considerable experience in India. For a number of years he was connected with the East Indian Railway as Controller of Stores. In the year 1903 he retired from Railway service and joined the firm of Herbert, Parrott & Co., when the place of business was removed to 4-1, Government Place, N.

In 1905 he took the business into his own hands and has since managed it personally. The firm holds the sole agency for the famous firm of Messrs. James Buchanan & Co., Ltd. They are also agents for Sir Robert Burnett's gins, California wines, "Big Tree" Brand, and G. H. Mumm's champagnes, Blood, Wolfe & Co.'s beer and stout, "Gold Bock" Brewery Co., and many more in the wine and spirit business. The quality of the goods supplied by this firm has acquired a deservedly high reputation in India, especially as the management has been successful in promoting the sale of the pure high-class Scotch whiskies produced by the famous distilling firm of James Buchanan & Co., Ltd. These brands, known as the "House of Commons" whiskies, from the fact of James Buchanan & Co., Ltd., being suppliers to the House of Parliament, have come into very extended use in India, the most popular being "Black and White." The supply of pure reliable spirits is a matter of the first importance in a country such as India where the climate will not permit of the safe consumption of any but high-class liquors such as

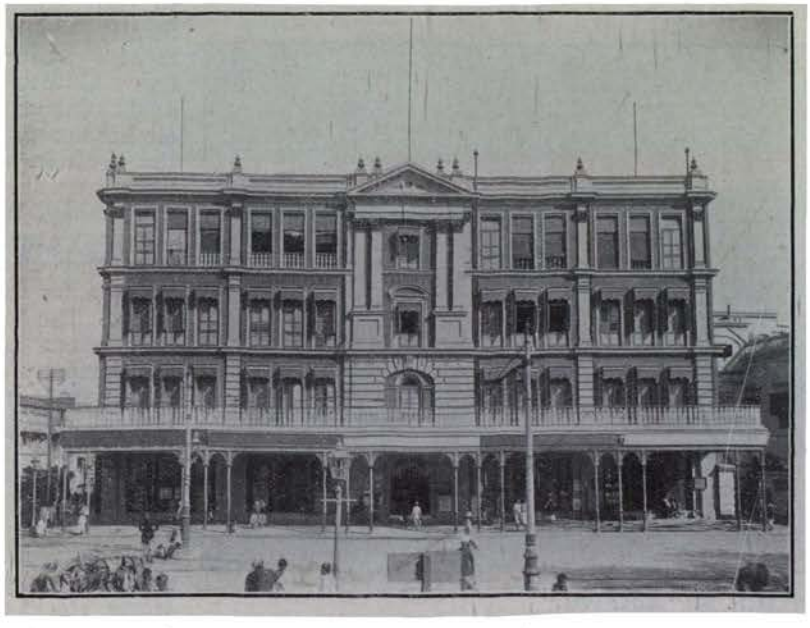
Mr. HUMPHRIES.

supplied by Messrs. Herbert, Parrott & Co. The "House of Commons" whiskies are of particular value and their quality may be gauged from the fact that the "Royal Household Blend" of this brand was the only whisky supplied on board the S.S. *Ophir* during the tour of H. R. H. the Prince of Wales through the Australian Commonwealth, also during his recent tour through India and Burma. Messrs. Herbert, Parrott & Co. have added a retail to their wholesale license and are prepared to supply wines, spirits, &c., by the bottle as well as by the dozen or case. Mr. W. H. Humphries, the present proprietor, is a native of Canterbury, England; he received his education at the well-known Surrey County School, Cranleigh, and King's College, Canterbury, previous to which he was for three years a Chorister in the famous Canterbury Cathedral Choir.

Mr. Humphries came out to India in the year 1874 and was for a period of some eighteen months in the service of the Military Department, Calcutta, and afterwards joined the East Indian Railway Company. He is a member of the Wine, Beer and Spirit Association, and his knowledge as a wine and spirit merchant is thorough, and the firm is progressing under his management.

Messrs. HERBERT, PARROTT & Co.'s PREMISES, CALCUTTA.

The PELICAN and BRITISH EMPIRE LIFE OFFICE (established 1797). Originally founded over a century ago as "The Pelican," this office enjoys the distinction of being the oldest purely Life Office in the world established on joint-stock principles. Its Head Office is in Lombard Street, London, and is one of the most noted and ancient buildings in that City. For a considerable time the Company conducted its business under its original designation, but in 1903 its name was changed from the "Pelican" to that of the "Pelican and British Empire," the business of the "British Empire Mutual Life Assurance Company" having been fused with that of the original Company in that year.



PELICAN AND BRITISH EMPIRE LIFE INSURANCE CO.'S OFFICES, CALCUTTA.

The combination has resulted in greatly strengthening the position of the Company and it has become one of the first magnitude, with Funds amounting to over £5,000,000 sterling and an annual income of £600,000.

The affairs of the Company are under the control of a strong and influential Board of Directors at Home. Amongst them the names of Viscount Hampden, Lord Avebury, Lord George Hamilton, and Sir John Gorst appear, and testify to the high standing of the Company, whilst the general management is conducted by Mr. G. H. Ryan, F.I.A.

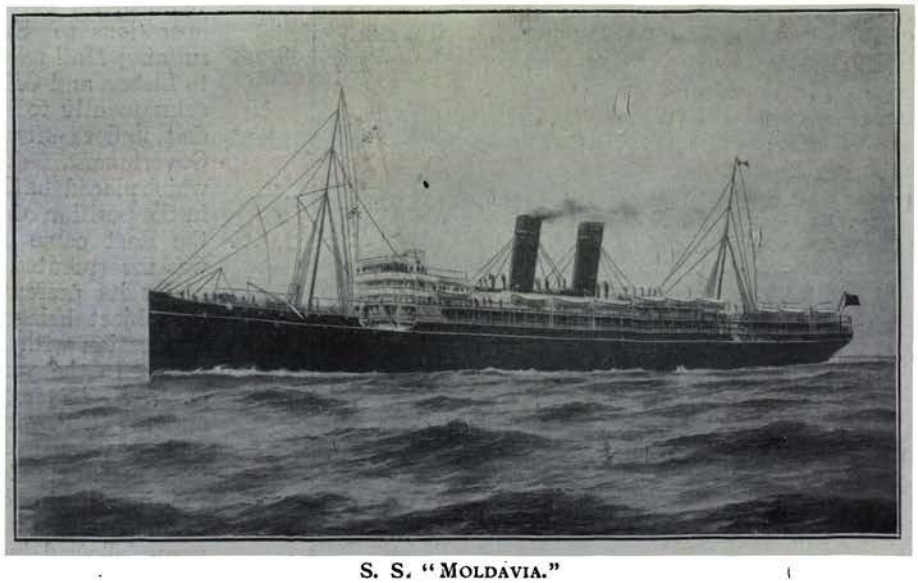
In India and the East, the Company transacts a large and increasing business. Their Head Office is at No. 12, Dalhousie Square, Calcutta, and Branches have been established in Bombay, Karachi, Rangoon, Madras, Colombo, Penang and Singapore. A Local Board of Directors, consisting of Messrs. C. W. Foley, W. C. Graham and P. Mould, direct operations in India, the chief executive officer being Mr. R. A. C. Thomas, F.I.A. The advice of such experienced men in Indian affairs as Lord George Hamilton and Sir John Gorst, is of much advantage to the Company in the direction of its operations in the East, and through the medium of the Home Board this is always available.

The Company is largely represented in Canada, the head office for the Dominion being in Montreal where there is a local Board of Directors. Branches have also been established in most of the principal towns in the Dominion. Owing to the strength of the valuation of the Canadian liabilities compared with the other offices transacting business there, the Company appeals strongly to those who rightly consider the question of security, the most important for investigation when effecting an Assurance. The management of the Company's affairs in Canada is in the hands of Mr. A. McDougald.

During its existence the Office has paid away in claims the large sum of thirteen million pounds, and that the affairs of the Company are upon a sound financial basis is shown by the fact that *their available Resources exceed their Liabilities by the large sum of over one million pounds sterling.* High bonuses have been declared in the past, and on the last occasion profits at the rate of £1-12*s.* % per annum were distributed amongst the Policy-holders entitled to participate. With the assured position of the Company and its sound, though liberal, methods of business, a Policy with this office can truly be described as a "gilt-edged" security and a profitable investment.

THE PENINSULAR & ORIENTAL STEAM NAVIGATION Company. This world-famous Company commenced its regular career in the year 1837, and for the first three years of its existence confined its operations to European waters,—running Mail packets from London to Lisbon and Gibraltar at first, and subsequently to Malta and Alexandria, under contract with the British Government. The development which placed the Company's steamers in the position of the leading line to the East came in 1840, when it was incorporated by Royal Charter under its present style and title; the object being to establish communication with India and the Far East. In the year 1842 the P. & O. *S. S. Hindostan*, of 1,800 tons and 500 H. P., started on her epoch-making voyage to the East, *viâ* the Cape of Good Hope. The rise of the line to importance was then rapid; other steamers of the Company followed in the wake of the pioneer, and in two years they had established a regular Mail Service from England to Alexandria, thence overland to Suez, and from Suez to Ceylon, Madras, Calcutta, Singapore, Hongkong and Shanghai. This advance necessitated the establishment, at enormous expense and under great difficulties, of coaling stations, docks, store establishments *en route*, and at certain stations even fresh water supplies had to be provided for. The Overland route, despite the arduous nature of the journey between Alexandria and Suez, over part of which, from Cairo to Suez, all merchandise had to be carried by caravans, was worked with remarkable success, and the value of the trade in certain years attained the immense total of forty

millions sterling. In 1852 steam communication with Australia was established by the Company, by means of a branch line from Singapore, and in 1854 the Honourable East India Company's Suez-Bombay Service was handed over to the P. & O. From that date the Company have retained and expanded, in accordance with public requirements, the British Mail services throughout the East, under a series of Mail Contracts, which on every occasion have passed through the ordeal of public tender. In 1869 and the succeeding years the conditions of trade were entirely revolutionized by the opening of the Suez Canal, which swept away the necessity of the Overland route, and the lines of communication which the Company had built up and maintained for thirty years were of necessity abolished by the facilities of a through service. The introduction of compound engines for mercantile steam ships at the same time altered another of the conditions of existence, and the P. & O. Company were therefore face to face with an emergency which they met with characteristic enterprise. A new service had to be organized and a new fleet procured with the utmost despatch; nevertheless it was five years before the Company could consolidate their new position. They were hampered by the action of the Postal authorities, who for a long time objected to the substitution of the Canal for the Overland Route for the conveyance of the Mails, except at a material concession of contract rates which placed a heavy burden on the Company at a time when they were incurring such enormous expenses. A compromise was at last effected by which heavy Mails were allowed to pass through the Canal, but it was not till 1888 that the accelerated Mails, sent *viâ* Brindisi, were allowed to go by the Canal in through steamers—a concession which cost the Company nearly £100,000 in their yearly subsidy. This closed the Company's connection with the Overland route; from this time onwards the operations of the P. & O., as it has come to be familiarly called, have been carried on with unfailing success, and the East has been covered with a veritable network of their Lines, served by large, fast and comfortable steamers with unfailing regularity. The services which the P. & O. have performed have been more than expected from private enterprise. They have been of national importance. Since the opening of the Canal and the establishment of many lines of steamships it has been suggested that the existence of a regularly subsidized Mail Line is of less importance than formerly, but the question has never been seriously raised and it is generally recognised that the Imperial and Commercial interests involved are of such magnitude as to put the idea of casual or haphazard service outside the sphere of practical politics. The P. & O. with its vast fleet of reliable, well-found, splendidly manned and officered steamers, offers too great security for regularity and speed for its position to be questioned. The extent of its Passenger business is another guarantee of the esteem in which the unfailing regularity of its services is held. The Company's Fleet to-day consists of steamers of a tonnage of over 400,000 tons, and the original cost of these ships has amounted to £8,700,000. The progress in shipbuilding may be gauged by a comparison of their first steamer, the *William Fawcett*, of 206 tons, with the magnificent steamers of the *Macedonia* class of 10,500 tons.



S. S. "MOLDAVIA."

Mr. FRANK RITCHIE, Superintendent, P. & O. S. N. Company, Bombay. Mr. Ritchie has been connected with the Company since the year 1879. He has served in the London office and afterwards in Italy, China, Straits Settlements, Australian Colonies and Calcutta. He has occupied the position of Superintendent at Bombay, the Company's most important office in India, for five years. The establishment of the Company at Bombay includes a large dockyard of over 20 acres at Mazagon with extensive repairing shops, marine and purser's stores, stocks of coal and a dry dock, all giving daily employment to a large number of hands. A large flotilla of passenger tenders, launches, lighters, etc., is also maintained in connection with the various services. Mr. Ritchie, the present Superintendent, also holds the position of Member of the Bombay Port Trustees, and of the Committee of the Bombay Chamber of Commerce, and takes a great interest in all commercial matters.

Mr. R. A. A. JENKINS, till recently Acting Superintendent, P. & O. S. N. Co., Calcutta, has been connected with this Company since 1882. He served in the London Offices for some years and came out in the service

of the Company to Bombay in 1889, where he remained until transferred to Calcutta in 1903.

Mr. Jenkins is Agent for the Marine Insurance Co. of London. He is a Member of the Bengal Chamber of Commerce and a Member of the Shipping Sub-Committee of that body. He is also on the Committees of the Presidency General Hospital and Hospital Nurses' Institution, representing the Liners' Conference, and was for a time on the Committee of the Sailors' Home.

Mr. BOMANJI DINSHAW PETIT, of Bombay, is the only surviving son of the late Sir Dinshaw Petit, *Bart.*, patriot, philanthropist, and pioneer of the mill industry.

Mr. B. D. Petit.

The late Sir Dinshaw, the first Baronet, was known as the Indian Peabody, owing to his wise and munificent charities, which amounted to nearly thirty lakhs of rupees, and Mr. Bomanji who is now the recognized head of the great Petit family, zealously follows in the footsteps of his father. Besides being one of the foremost and most respected of the Parsee community, Mr. Bomanji is a representative citizen of India, having largely contributed to the commercial, industrial and mercantile development of the country both as a mill-owner of wide experience and a sound man of business.

Mr. Bomanji was born in 1859, and was educated at St. Xavier's College, Bombay. After he passed his F. E. A. Examination, the premature death of his elder brother, Mr. Cowasjee, put an end to his school life, as it was now necessary for him to join his father's firm and assist him in his colossal undertakings. Though scholastic education was thus cut short, his education as a merchant and business man went on under the wise guidance of Sir Dinshaw for upwards of a quarter of a century, with the result that he acquired commercial knowledge of a rare and high order. Mr. Bomanji is an expert at figures and bears the reputation of being a shrewd financier. His great experience in mill management puts him in the front rank among the merchants of the Oriental Manchester. As senior partner in the house of D. M. Petit, Sons & Co., he has chief managerial supervision of the Manockjee Petit, Dinshaw Petit, Bomanji Petit, and Framji Petit Mills, and also until recently of the Victoria Mills and the Southern Maharatha Pressing and Ginning Co. He is also senior partner of the firm of Messrs. B. D. Petit, Sons & Co., under whose agency is the management of the Emperor Edward Mill, and the Presses and Gins of the Godavery Valley, Parbhani and Oomri Ginning and Pressing Companies, Ld. The magnitude of his interests in the mill industry may be partly realized from the fact that under his control are 200,000 spindles, 5,000 looms, 10,000 workpeople drawing a lakh and-a-half of rupees salary monthly, while engines of 10,500 horse-power are employed in the monthly production of 2,500,000 pounds of yarn and 1,350,000 pounds of cloth. All this is in addition to hosiery, dyeing, pressing, ginning, and mechanical factories.

The work by which Mr. Bomanji has contributed towards the development of Bombay's trade is varied and voluminous. He is a member of the Bombay Chamber of Commerce and of the Bombay Mill Owners' Association, of which latter body he was President in 1903. He established in 1892 the Bombay Cotton Exchange Co., Ld., in order to safeguard the interests of the native cotton trade of Bombay. He also started the Bombay Fire Insurance Co., Ld. He has been a Director of the Bank of Bombay for the last ten years, and was appointed its President in 1903. Mr. Bomanji also holds a seat on the directorate of all the mills under the Petits, of which he is also the Chairman, *viz.*, the Manockji Petit group, the Emperor Edward and the Framji Petit Mills, and is also Chairman of the Directors of the Textile Manufacturing Co., Ld., and the Bombay Dyeing Co., Ld. He is also a Director of the Jubilee Manufacturing Co., Ld.

Mr. Bomanji's more purely public work should now be recorded. In 1899 he was nominated a Member of the Bombay Legislative Council, and in 1901 was appointed

The late Sir D. M. Petit, *Bart.*

a Government Representative on the Board of the City Improvement Trust, a position which he resigned in 1905 owing to ill-health. He is a Justice of the Peace, a Delegate of the Parsee Chief Matrimonial Court, a Trustee of the Parsee Panchayat funds, and a prominent and useful member of almost all the important institutions of the city, charitable, literary, or religious. He represents the Mill Owners' Association on the Board of the Victoria Jubilee Technical Institute, and holds a seat on the Committees of the Sir Jamsetjee Jeejeebhoy Parsee Benevolent Institute, the Sir Dinshaw

Maneckjee Petit Gymnasium, the Jamsetjee Nusserwanjee Petit Parsee Orphanage, the Society for ameliorating the condition of poor Zoroastrians in Persia, the Society for the supply of cheap and sanitary residences to Zoroastrians, the Victoria Memorial School for the Blind, the Countess of Dufferin Fund, the Sir Dinshaw Maneckjee Petit (first Baronet) Charity Funds, the Bomanji Dinshaw Petit Mahableshwar Library, and a host of other institutions which all benefit by Mr. Bomanji's experience and knowledge. To works of charity and public utility, Mr. Bomanji is a liberal giver, and to institutions whose accounts are public property he is known to have given over four lakhs of rupees. In 1903 he established the magnificent library and public hall at Mahableshwar, and the most recent of his larger gifts is a contribution of a lakh of rupees towards the London School of Tropicial Medicine, in connection with which a separate building bearing his name has been erected.

Mr. Bomanji has three sons, who are all partners in the firm of Messrs. B. D. Petit, Sons & Co., besides each conducting an independent business in his own name. The eldest, Mr. Jehangir, is a Justice of the Peace, an Honorary Magistrate, a Member of the Bombay Municipal Corporation and a Delegate of the Parsee Chief Matrimonial Court. The second son, Mr. Dhunjibhoy, is also a merchant and a Justice of the Peace, and the third son, Mr. Phirozshaw, has recently started his own house of business.

Mr. JEHANGIR BOMANJEE PETIT, Bombay. Mr. Jehangir Bomanjee Petit is a grandson of the late Sir Dinshaw Maneckjee Petit, *Bart.*, and the eldest son of the Hon. Mr. Bomanjee Dinshaw Petit of Bombay.

Mr. Jehangir was born in the year 1879. He received a sound and liberal education at the well-known Jesuit Institution of that City, the St. Xavier's College, which he left early in 1897 and subsequently followed mercantile pursuits. Young Mr. Jehangir soon started a firm of his own, entitled Jehangir B. Petit & Co., and in 1898, we find him one of the leading merchants at Bombay, trading extensively in all classes of goods, with several branches of his own in various places and having close upon a hundred connections in different parts of the world. The firm is now doing business on a gigantic scale with a total turn-over of a couple of crores of rupees per year, having their principal business divided into four extensive Departments, *viz.*, Import, Export, Insurance and Cotton. They largely import piece-goods of all classes, metals, hardware, sugar, matches, perfumery, coal and sundries, and are heavy exporters of cotton and rice. Coal, cotton and insurance in particular seem to be their speciality, as in these branches of business they occupy one of the foremost places among the mercantile firms of Bombay. They are the sole agents

Mr. J. B. PETIT.

for several well-known and first class qualities of Bengal coal, and make their own purchases of cotton in various important cotton-growing districts of India, where they have their own agencies; their total annual sales for the former going considerably over a hundred thousand tons, and for the latter a good deal over the same number of bales. So fast is their trade in coal expanding that they have frequently to charter large steamers to meet their increasing demands. In insurance, they represent several first class English Companies, and in this branch also, as in coal and cotton, their business stands quite in the front rank, their total annual premiums amounting to considerably over three lakhs of rupees.

Mr. Jehangir is also a partner in his father's firm, Messrs. B. D. Petit, Sons & Co., and as such, is the agent of several important and flourishing concerns which form the source of bread to several thousands of operatives.

These are:—

	Capital. Rs.
The Emperor Edward Spg. & Mfg. Co., Ltd. (Bombay)	10 lakhs.
The Godavery Valley Gg. & Pg. Co., Ltd. (Jalna) ...	1 lakh.
The Parbhani Gg. & Pg. Co., Ltd. (Parbhani) ...	1 ,,
The Oomri Gg. & Pg. Co., Ld. (Oomri) ...	1 ,,

As a merchant and mill agent, Mr. Jehangir has done much to advance the interests of the various mercantile communities of Bombay. He is one of the most active and conspicuous members of the Bombay Chamber of Commerce, of the Bombay Mill Owners' Association, and of the Bombay Fire Insurance Agents' Association. He has a seat on the Boards of Directors of the Emperor Edward Spg. and Mfg. Co., Ltd.; the Godavery Valley Gg. and Pg. Co., Ltd.; the Parbhani Gg. and Pg. Co., Ltd.; the Bombay Cotton Exchange Co., Ltd.; the Kaiser-i-Hind Gold Mining Co., Ltd.; and the Bombay White Lead Development Co., Ltd.

Mr. Jehangir is a man of the world, and a shrewd, far-seeing, competent business man. He possesses a thorough knowledge of the working of spinning and weaving mills, and his opinion is therefore readily sought on mercantile questions. Mr. Jehangir, notwithstanding the labour and time devoted to commercial matters, takes a lively interest in all public affairs, which he has done much to promote. He has had a brilliant public career, which commenced at a very early age, when he was in his teens. While yet at College, he took a very intelligent part in a controversy that was at that time engaging the attention of his community, "The Baj-Rojgar Question." He wrote on that question in the papers; and in spite of strong opposition, fearlessly expressed his opinion in the *Bombay Gazette*. In 1900 he started and conducted with great success an original scheme of his own for the relief of the famine-stricken. He started his memorable

"Two-Anna-Famine Fund" on the principle of the Snow-Ball System, and collected and distributed over Rs. 30,000 in a manner which drew much praise for him from the Indian Press. He also played a prominent part in organizing and establishing the Bombay Rate-Payers' Association; the Zoroastrian Association (which is a society for the purpose of keeping a watchful eye on the interests of the Parsee community); the Society for the Propagation of Religious Education among the Zoroastrians; and has very recently put forward a scheme for the establishment of a Parsee General Hospital. As a Municipal Councillor, Mr. Jehangir has rendered conspicuous service, being a fluent and impressive speaker, a zealous and capable worker, with an independent and fearless disposition and always accustomed "to call a spade a spade." Mr. Jehangir is known as a friend of the poor, the defender of the oppressed, and a terror to the oppressor. He belongs to the progressive class and is always to the front in advocating and supporting all measures of well-thought-out reform and advancement, but he does not believe in headlong and rapid movements, and is certainly no advocate of the breaking up of old and reputed institutions without the most careful, patient and elaborate enquiries. Owing to his many qualities of head and heart, Mr. Jehangir occupies a prominent position as one of the leading citizens of Bombay; and there is hardly a public movement of any importance ever formed in the city in which Mr. Jehangir is not called upon to play a conspicuous part.

Mr. Jehangir is well known as a public lecturer and has the reputation of having a facile pen. He is in charge of the Editorial columns of several Indian papers; and also occasionally contributes to the papers in his own name on Political, Social and Economic questions. He is the author of a number of interesting books and leaflets on metaphysical and scientific subjects which are among his pet studies, written in an easy and vivid style, in English and French, over both of which languages Mr. Jehangir possesses a remarkable facility.

Besides being a most enterprising and successful Merchant and Mill Agent, Mr. Jehangir is a Justice of the Peace for the Town and Island of Bombay, a Special Juror, an Honorary Presidency Magistrate, a Freemason, a Member of the Bombay Municipal Corporation, and a Delegate of the Parsee Chief Matrimonial Court. He is the Patron of the Akalkote Agricultural Syndicate, the Vice-President of the Bombay Shorthand Writers' Association, and the Honorary Secretary for the "Victoria Memorial School for the Blind," which owes its inception and development to his intelligent and energetic exertions.

Mr. Jehangir is also connected with a number of charitable, religious, and other benevolent institutions, all of which reap the unstinted advantage of his education, experience and shrewd business talents. He is on the Committees of (1) the Zoroastrian Association; (2) the Society for Giving Religious Education to Zoroastrian Children; (3) the Bombay Rate-Payers' Association; (4) the Society for the Prevention of Cruelty to Animals, and the Lady Sakerbai Dinshaw Petit Hospital for Animals; (5) the Bombay Native General Library; (6) the Sir Cowasjee Jehangir Khetwadi Girls' School; (7) the Victoria Memorial School for the Blind; (8) the Sir Dinshaw Petit Kandawalla Mohlla Library; (9) the Hindu Gayan Samaj; (10) the Bombay Presidency Association; (11) the Cercle Littéraire Bibliothèque Dinshaw Petit; (12) the Society for Educating Zoroastrian Girls; (13) the Dadabhoy Nowrojee Poor Boys' Seminary; (14) the St. Xavier's College Association; (15) the St. John's Ambulance Association; (16) the New Bombay Cycling Club; (17) the Gatha Society; (18) the Students' Brotherhood; (19) the Bombay Buisson Society and Institution, and is the Honorary Auditor of the Sir Jamsetjee Jeejeebhoy Parsee Benevolent Institution.

Mr. Jehangir gives freely to deserving objects; and in this respect he follows in the footsteps of his distinguished father and grandfather. He has contributed so far a sum of half a lakh of rupees to the establishment of libraries, schools, hospitals, dispensaries and to charitable objects generally.

Mr. WILLIAM HEATH PHELPS, J.P., a Municipal Commissioner for Calcutta, was born at Hucknall, near Nottingham, in 1855. He received his education in England and came out to India in 1880. He has since then been connected with the well-known firm of Messrs. Phelps & Co., and is now the senior partner in India. Mr. Phelps for some time has actively associated himself with the Municipal life of the city. He has served on several Corporation Committees. As a Member of the Hackney Carriage Committee, Mr. Phelps took an active part in the crusade against the notoriously bad carriage service of Calcutta. The vigorous policy adopted was responsible for a most welcome improvement. He has acted on the Markets and numerous other Committees and the General Committee of the Corporation. All matters connected with the advancement of Calcutta as a modern city have claimed and received Mr. Phelps' support. He has recently formulated a proposal, that has received influential support, for the

Mr. W. H. PHELPS.

building of a Town Hall that should serve as the real centre of civic life in lieu of the present obsolete Town Hall. He proposed that the building should include a Municipal Theatre and in every respect fulfil the intellectual and entertainment requirements of a great city, to be erected near the New Municipal Offices in Corporation Street. Naturally Mr. Phelps' proposal excited a warm controversy, but, generally, public opinion is in favour of a reform that would so materially benefit the city and, possibly, prove a source of income to the Municipality. Calcutta lacks to some extent the type of business man like Mr. Phelps who is willing to devote

his time and ability to the welfare of the city. Since 1888 he has almost continuously represented the Trades Association on the Municipal Council and is now a Member of the General Committee. He has been connected with the Cathedral Choir since 1883, and an Honorary Presidency Magistrate since 1890.

Messrs. CHARLES PHILLIMORE & Co., Ltd., Army Contractors, Bombay. This is an English Company with registered offices in London at 136-148, Tooley Street, with a Board of Directors. The Chairman of the Company is Mr. W. O. Kennett, who is also Chairman of Messrs. Richard Dickeson & Co., Ltd.

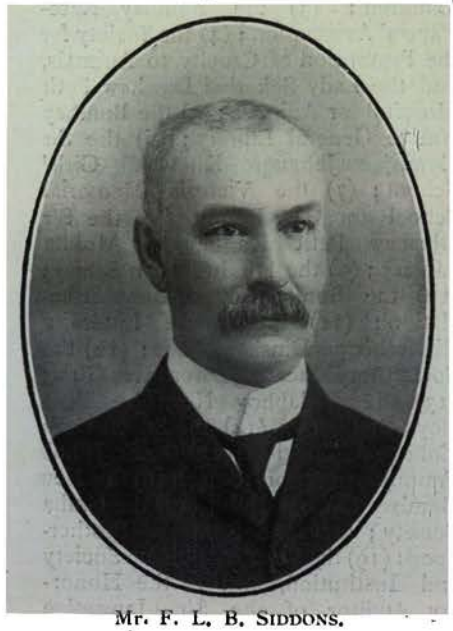
The Company is largely interested in canteen and grocery supplies to the British Army, and carried through large contracts at the Delhi Durbar successfully. A branch is established at Perim Island in the Red Sea, which supplies practically all ships of the British Navy on their outward and homeward voyages.

The Head Indian Office is at Elphinstone Circle, Bombay, and the godown opposite the Prince's Dock. There are several branches throughout India, the chief ones being at Karachi, Calcutta, Secunderabad, Aden, Meerut, and Madras, where stores of practically every requisite for Regimental Institutes are supplied.

The Managing Director in India is Mr. F. Norton Giles.

Messrs. PLACE, SIDDONS and GOUGH, Bill and Stock Brokers, No. 1, Commercial Buildings, Calcutta. The firm was originally established in the year 1878 under the style of Place and Siddons, for the purpose of carrying on business in stocks and shares, which forms the principal part of its undertaking to the present day. In the year 1888, Mr. George Gough joined the firm as partner, when the style was changed by the inclusion of his name. Another partner was admitted in the year 1891, in the person of Mr. T. B. G. Overend. Mr. Guy Shorrock was taken into partnership in July 1903, Mr. H. J. Place retired in 1895, and Mr. George Gough in 1902. The present partners are Messrs. Siddons, Overend and Shorrock.

Mr. FREDERICK LEWIS BRANDON SIDDONS, Senior Partner of the firm of Place, Siddons and Gough, was born in the year 1851, and is the son of the late Mr. F. G. Siddons. He started business on his own account as a stock and share broker in 1870 in Calcutta, and amalgamated his business with that of Mr. Place in 1878, forming the nucleus of the present firm of Place, Siddons and Gough. Mr. Siddons is on the Board of Directors of several jute, paper, coal and tea Companies. He is a member of the Bengal Chamber of Commerce, and member of the



Mr. F. L. B. Siddons.

Financial Sub-Committee of that body, and also a member of the Royal Exchange and Committee.

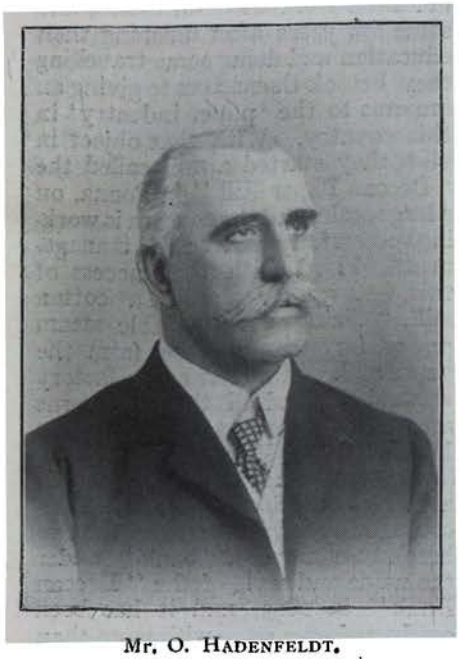
Mr. THOMAS BROWNE GRAY OVEREND, partner in the firm of Place, Siddons and Gough, stock brokers, was born in the year 1855, at Dublin (Ireland). He came to Calcutta in 1884, and in the year 1891, joined the firm of Place, Siddons & Gough. Mr. Overend is a member of the Royal Exchange and Bengal Chamber of Commerce, and has acted on the Committee of the Royal Exchange, and on the Finance Sub-Committee of the Chamber of Commerce. He is on the Board of Directors of several Companies in jute, tea and coal. Mr. Overend interests himself in Masonry and is Past District Grand Senior Warden of Bengal. He has

Mr. T. B. G. Overend.

passed the Chair in his own Lodge, besides a number of Chapters, and has taken the 30°.

Messrs. POPPE, DELIUS & Co., Jute Fabric Brokers, Calcutta. Established in the year 1875 by Messrs. Poppe and Delius, the partners carried on the business in conjunction for twenty-three years, till in 1898 Mr. Delius retired, and two years later Mr. Poppe followed, after handing over the business to Mr. Otto Hadenfeldt, who, in the following year, 1901, was joined by Messrs. Wm. C. Johnston and J. M. Turner. The name of Messrs. Poppe, Delius & Co. is a very familiar one in Calcutta, as the firm have been so long and prominently associated with the great staple trade in jute fabrics. They do a very large business in this line. Mr. Hadenfeldt, the present Senior Partner, has had a long association with Indian trade. He arrived in the country in the year 1875 as a junior in the service of Messrs. Hadenfeldt & Co., of which firm his brother is a partner. In 12 years he had worked his way up in the firm till he was offered and accepted a

partnership. He remained in this capacity with Messrs. Hadenfeldt & Co. till 1900, when he took over the business of Messrs. Poppe,



Mr. O. HADENFELDT.

Delius & Co., which he, in partnership with Messrs. Johnston and Turner, now conducts.

Messrs. POSNER & CO., Cotton Brokers and Merchants. Messrs. Posner & Co. have been in business in Calcutta for some thirty years, having been established in the mid seventies by Mr. Julius Posner, who still remains as the senior partner in the firm. For some years after their establishment they did a general mercantile business, but for the past quarter of a century they have confined their operations to produce-broking, attaining a leading position, particularly in the cotton line, in Calcutta. They do a large business for the local Mills and for export. Messrs. Posner are taking an active part in improving the Indian cotton industry with the Long Staple Syndicate, and they are representatives of the leading up-country firms in placing gin-cotton on the market. Mr. Posner has a very long experience in cotton and has resided in India many years. Mr. Richard Schenk was made partner in the firm in 1897. He also has much experience, having been resident for years in the country, and connected with Calcutta mercantile houses.

Mr. HENRY EDWARD EDLESTON PROCTER, Chairman of the Bombay Chamber of Commerce, is a partner of Messrs. Killick, Nixon & Co., one of the oldest and most important firms in Bombay, and was born in Cheshire, England, in 1866, and educated at Birkenhead School. In 1882 Mr. Procter joined the corresponding firm of Preston, Nixon & Co., Liverpool, as an apprentice. He came to India in 1888 and joined the Bombay firm, and has been connected with it ever since, a period of 17 years, during which he passed through the various departments and subsequently became a partner.

Mr. Procter's commercial activity resulted in his being appointed Deputy Chairman of the Bombay Chamber of Commerce, 1904 and 1905, and Chairman, 1906 and 1907, facts which speak volumes in favour of his business abilities and the trust he so well enjoys. He is the President of the Bombay Y. M. C. A., and European young men have ever found in him a sympathising and true friend. Among a host of important public bodies which claim Mr. Procter as their valuable and useful member may be named the Mill Owners'

Mr. H. E. E. PROCTER.

Association, of which he is a Committee member, the Bombay Port Trust, the St. George's Hospital Nursing Association, the European and Eurasian Poor Fund, the Bombay Tract and Book Society, and last but not least the Bombay Branch of the British and Foreign Bible Society, of which he is one of the Vice-Presidents.

Mr. HORMUSJEE DORABJEE PUDUMJEE, J.P., of the firm of Messrs. H. D. Pudumjee & Co.,

Mr. H. D. PUDUMJEE.

Merchants and Commission Agents, 18, Bank Street, Fort, Bombay, was born in the year 1864 at Poona, Deccan, and received his education at the Poona High School. After acquiring a sound commercial training Mr. Pudumjee entered the commercial world and founded the firm of H. D. Pudumjee & Co. in Bombay in the year 1888, with the primary object of rendering service as agents and representatives of the Deccan Paper Mills Co., Ltd., the Deccan Bank, Ltd., the Moondwa Cotton Mills at Poona, and of Messrs. John Haddon & Co. of London. Later on the firm started as carriage builders, importers, general merchants, etc. Thus it will appear that its business is of a miscellaneous nature; and by great industry and enterprise combined with promptness, despatch and tactful resources, a large *clientèle* has been secured by the firm, not only in Bombay, but in other places in the Western Presidency, notably Poona, where the family of the founder is

well known. In 18 years it has attained a large measure of success. As a carriage builder, Mr. Pudumjee has attained special distinction, having secured first class medals and prizes at public exhibitions. His energies and activities have also found an outlet in other original work of a useful description, for instance, in the manufacture of blank cylinders for phonographs, in which he carries on a lucrative trade. Mr. Pudumjee also carries on business on a large scale in Walker's Patent Boiler Varnish and Encol Boiler Composition, used by several well-known mills in Bombay as well as up-country. The subject of this sketch comes from a highly esteemed Parsee family, settled for a number of years in the Deccan capital of the Bombay Presidency. His father who was honoured with the rare distinction of the title of Sardar Khan Bahadur, was a prominent member of the Bombay aristocracy, having secured a seat in the Legislative Council of His Excellency the Governor of Bombay. Mr. Pudumjee, Junior, himself is a rising man, and being young in years, has yet plenty of time before him to rise in honours and distinctions like his worthy father. He is a Justice of the Peace for the Town and Island of Bombay.

The Hon'ble Sirdar NOWROJEE PUDUMJEE comes of a stock directly descended from the well-known Parsee family of Godrej of Broach, who have been merchants from the time of the advent of the British in India. In fact, the great grandfather of the present subject, Mr. Sorabjee, was trading on a large scale in Surat in the early days of the last century, when, fired by hopes of achieving greater success, he arrived in Bombay, whence his son, Khan Bahadoor Pestonjee Sorabjee, repaired to Poona, the capital of the Deccan, about the time of the British settlement there. He was fortunate enough to soon secure the large business of the Government Mail Contract in days when railways were unknown and telegraphic communication undreamt of. So satisfactorily was the work done that the Government, in recognition of these valuable services, granted the title of Khan Bahadoor (a unique honour in those days), which was bestowed upon the grandfather and father of the Hon'ble Sirdar Nowrojee Pudumjee, and accompanied by a 'Gold Medal.' Thereafter the head of the family, Khan Bahadoor Pudumjee Pestonjee, was also raised to the rank and dignity of the coveted title of "First Class Sirdar in the Deccan." The Government has been continually pleased since to bestow this honour upon the successive heads of the family, the last recipient being the present subject of our article. It is also worthy of note that the Government have been pleased since 1873 to nominate each successive member to a seat in the 'Legislative Council,' a unique honour among the Parsee families in the Presidency of Bombay. The honour of reading the

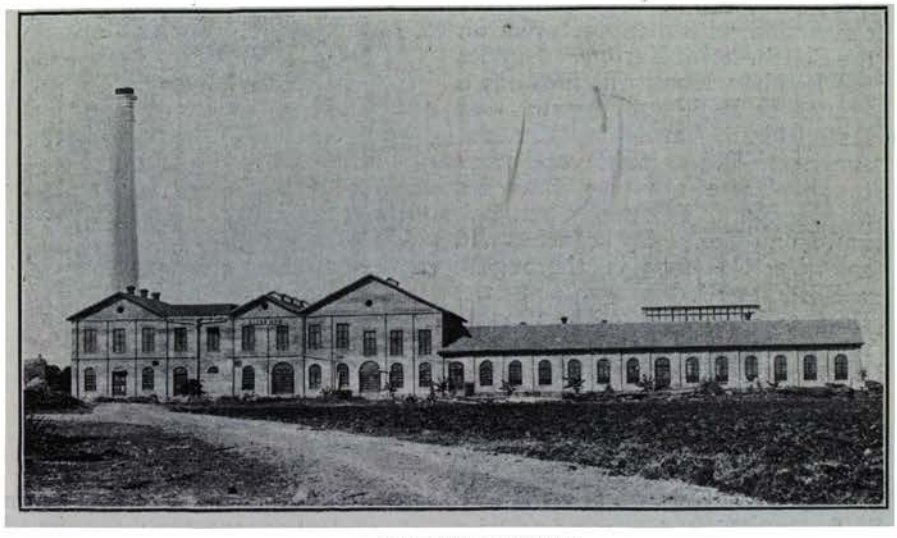
The Hon'ble Sirdar N. PUDUMJEE.

address on behalf of the citizens of Poona, when His Gracious Majesty the King Emperor was touring in India, was conferred on the late Sirdar Khan Bahadoor Pudumjee Pestonjee, who had the further privilege of presenting a beautiful necklace to His Majesty, from the hands of his grand daughter, Bai Heerabai. The charities of this family extend to over a lakh of rupees. Nowrojee Pudumjee matriculated in the early sixties together with his brother, the late Sirdar Khan Bahadoor Dorabjee Pudumjee, and both the brothers were favourite pupils of the distinguished 'educationist,' Sir Edwin Arnold, K.C.I.E.; Sirdar Nowrojee was appointed an Examiner at the Bombay University Examination. Both brothers were not lacking in the commercial instincts so richly inherited from their ancestors, and some few years after finishing their education and doing some travelling they betook themselves to giving an impetus to the 'paper industry' in this country. With that object in view they started a mill called the "Deccan Paper Mill" in Poona, on a large scale, and the concern is working successfully under their management. Fired with the success of this venture, they added a cotton mill, utilizing the available steam power for the purpose from the paper mill. Still later an ice factory was added, and all three concerns are working most satisfactorily at Mundhwa near Poona. These were, however, preliminaries to business of a more ambitious character. Encouraged by former successes, the two brothers started a 'bank' under the name and style of the "Deccan Bank" in 1893, and it has been conducted ever since with more than ordinary success. They have also taken up, on account of the bank, the "Gadag Cotton and Yarn Spinning Mill," and that large concern, after being considerably strengthened by large additions of new machinery, is now working most economically and successfully. The Hon'ble Sirdar Nowrojee Pudumjee is the Chairman of the joint stock concerns with which he is connected.

After the death of his brother, the Sirdar Khan Bahadoor Dorabji Pudumjee, the mantle of the head of the family fell on Nowrojee Pudumjee's shoulders and in consequence he was created a First Class Sirdar of the Deccan. Sirdar Nowrojee Pudumjee is a large landed proprietor in addition to being the promoter of the companies mentioned. The head of the Pudumjee family has not only been known to be "loyal to Government," but has also the confidence of the people of the Deccan. Although fully occupied with various matters, the successive heads of the family have never stinted or grudged any sacrifice of time for public or municipal duties. The Hon'ble Sirdar Nowrojee Pudumjee is the Chairman of the Managing Committee of the City Municipality, Secretary of the "Agri-Horticultural Society."

Vice-President of the Poona Khan Bahadoor Pestonjee Sorabjee Dispensary and Hospital, and takes part in almost all public functions, was accorded a seat in the Legislative Council in 1906, and his nomination by Government was very popular.

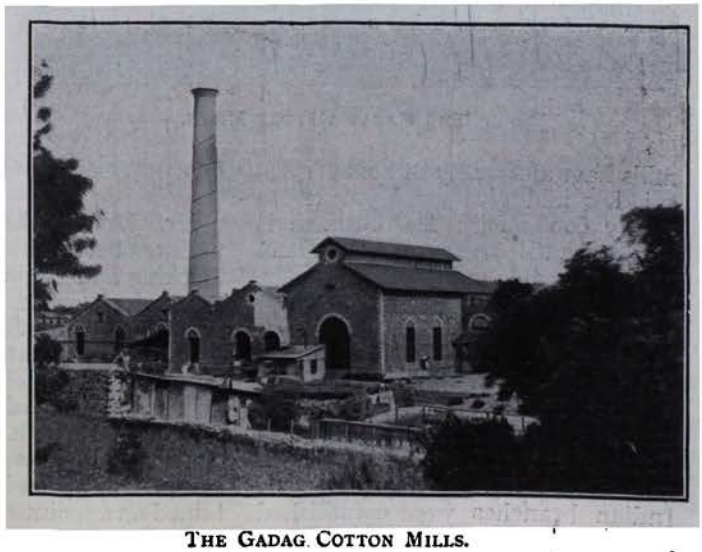
The DECCAN PAPER MILLS Company, Limited, was floated in the year 1885 by Mr. Nowrojee Pudumjee, in conjunction with his brother, the late Sirdar Khan Bahadur Dorabjee Pudumjee. These gentlemen, acting under the prompting of the Governments of India and Bombay in the year 1882, engaged in the project of establishing a paper mill in the Bombay Presidency, where up to that time no such industry had existed. The Government, in consideration of the impetus which such an establishment would give to native industry, and in the employment of native labour, had promised support to the brothers Pudumjee in the enterprise if they would undertake it. In view of the promising outlook thus offered, the brothers Pudumjee freely gave their influence and resources for the purpose of starting the new concern. After preliminaries, a Company was successfully floated under the name and style of the Deccan Paper Mills Company. The Government, duly making good its promises to the promoters, placed contracts for the supply of paper in the hands of the new Company, and ever since, the contracts to supply paper to most of the Government Offices in the Bombay Presidency have remained in their hands. Taking into consideration the difficulties in the way of the successful establishment of such an industry as paper-making in Bombay, where the necessary raw materials, grass and wood of the proper quality are only partially procurable, great credit is due to the Company and its promoters, Messrs. Pudumjee, for the uniform quality of the article produced at the mills. They have gained and deserve the good-will and esteem of the public at large, which has shown itself in the most practical manner possible in the shape of continued patronage of the produce of the mills. The Company employ some 500 operatives at their mills, the machinery for which was all brought from England. It has a nominal capital of 5 lakhs of rupees in 1,000 shares of Rs. 500 each. The mills are situated at Mundwa, about 6 miles from Poona.



REAY PAPER MILLS.

The MUNDWA COTTON MILLS. This joint stock concern was the outcome of the establishment of the Deccan Paper Mills Company. It being found that in the mills belonging to the last named Company there was a great deal of spare power available from the plant laid down therein, it was thought advisable to utilize it, and to that end a factory was erected with a capacity of about 2,000 spindles for cotton-spinning purposes. This has been working successfully and is a flourishing concern under the management of Messrs. Nowrojee Pudumjee & Co.

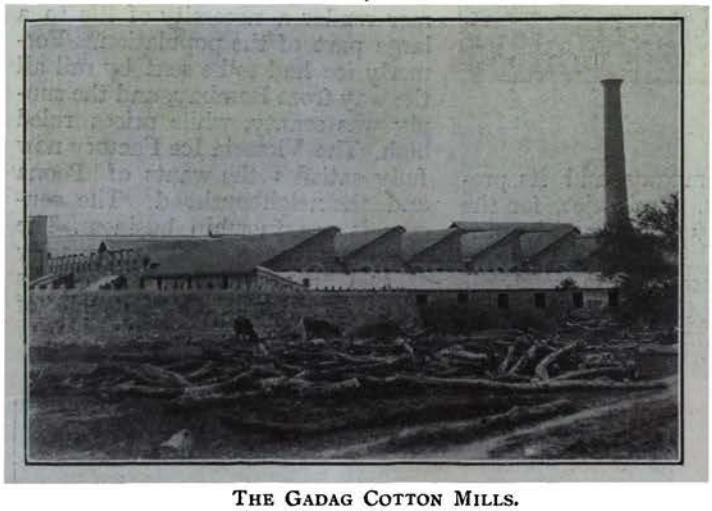
The VICTORIA ICE FACTORY. The founding of this concern by Mr. Nowrojee Pudumjee satisfied a long-standing want of the inhabitants of Poona, by placing within the reach of all a cheap and abundant supply of this much needed commodity, which the rigours of the Indian summer render a necessity of life to a large part of the population. Formerly ice had to be sent by rail all the way from Bombay, and the supply was scanty, while prices ruled high. The Victoria Ice Factory now fully satisfies the wants of Poona and the neighbourhood. The concern is a partnership business. The factory has a producing capacity of two tons daily, which is fully taken up by the people of Poona and its environs.



THE GADAG COTTON MILLS.

The DECCAN BANK, Limited, was established as a Limited Company in the year 1893, having been floated by Messrs. Dorabjee and Nowrojee Pudumjee. The office of the Company is situated at No. 561, Bhawani Pett, Poona. The Bank has a Capital of Rs. 2,50,000, and is the first institution of its kind to be established in Poona and the Mofussil towns of the Bombay Presidency. From its commencement, the Bank has had a most successful career, transacting a great volume of business, and its prosperity may be gauged from the handsome dividends which it has consistently paid since the first year of its establishment. The Agents and Secretaries of the Deccan Bank are Messrs. Nowrojee Pudumjee & Co. of Poona.

The GADAG COTTON AND YARN SPINNING MILLS. This concern is named after the town of Gadag in the Dharwar District of the Southern Mahratta Country. The

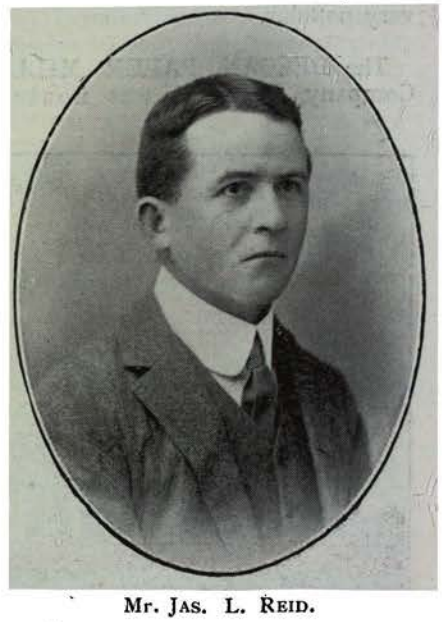


THE GADAG COTTON MILLS.

mills have a capacity of about 1,800 spindles and give employment to nearly 600 men. The business is in the hands of the Deccan Bank under the able management of Mr. Nowrojee Pudumjee.

Messrs. B. RIGOLD & BERGMANN, Merchants and Importers of English and Continental Manufactures, Calcutta. The Head Office of the firm is at 82, Bishopsgate Street Within, London. The Indian branches were established first at Bombay in the year 1879 and at Calcutta in the following year. The firm deals in woollen and cotton goods, in which they represent large English firms. They also represent Goodlass Wall & Co., Liverpool, for paints and varnishes; W. S. Dunn & Co., New York, for all kinds of picture mouldings; Messrs. Stoney Bros., Lancaster, for leather and oil cloths; Mr. Gustav Boehm Offenbach, Germany, for soaps and perfumery. They have also a very extensive connection with manufacturers on the Continent of Europe. Besides the Bombay House the firm has a branch at Delhi and agencies at Rawal Pindi, Cawnpore, Karachi, Amritsar, Madras and several other towns. There are also branches at Singapore, Penang, Shanghai, and Hong-Kong. By branches and agencies the firm is thoroughly well represented throughout the East and Far East. The present proprietor is Mr. George Bergmann, and Mr. A. M. Stewart is Manager for Calcutta. Mr. Stewart has been identified with this line of business in India for 23 years. He came to India in the year 1883 to join the firm now known as Stewart Mackenzie & Co., having formerly served in the London office of the same firm, known in the Metropolis as Stewart, Gent & Co.

Mr. JAMES LOW REID, Superintendent and Manager, Hooghly Docking and Engineering Company, Limited, Howrah, Calcutta, was born at Arbroath, Scotland, and educated in his native town. Being intended for an engineering career he was apprenticed at the Dens Iron Works, Arbroath, with Messrs. Alexander Shanks & Sons. On the completion of his indentures he obtained an appointment in the British India Steam Navigation Company's service, and served the Company at sea for a number of years. He resigned the Company's service in the year 1892 and joined the firm of John King & Co., Engineers, Calcutta, as an Assistant Engineer.



MR. JAS. L. REID.

Mr. Reid remained with this firm till the year 1901 when he resigned for the purpose of taking up his present appointment with the Hooghly Docking and Engineering Company, Ltd. The latter concern is a limited liability company, formed in the year 1901 to acquire and carry on the works and business formerly the property of Mr. H. C. Mullick. Since the conversion the business has made very rapid strides and from being in a small way when taken over, the works have grown to be capable of work of the most formidable character, as was shown when the contract of repairing the *Zulu*, one of the large steamers belonging to the Buckhall Steamship Company, was undertaken and successfully carried out. Mr. Reid is a member of the Institute of Engineers and Ship Builders of Scotland, and holds the Board of Trade certificate as Chief Engineer.

Messrs. ROGERS & Co., Aerated Water Manufacturers, Bombay. It is hard for the younger generation to imagine what life in India was like without aerated drinks. Yet in the days before Bombay had its present fine water-supply our

grandfathers had to drink from wells and tanks a liquid which a contemporary record declares "tasted like a red herring." But *nous avons changé tout cela*, and one of the earliest records and largest examples of the change is visible in the factory of Messrs. Rogers & Co. The business was started by Mr. Henry Rogers, one of the first chemists to settle in Bombay, in a very modest establishment in Forbes Street, in the year 1837. With the thirsty Englishman the new products naturally caught on rapidly, but Mr. Rogers had some trouble to raise an equal enthusiasm among the natives of the country. He succeeded, however, and the present vast sales of the firm testify to the change wrought in native habits by industriously pushing a good article. When a new thing is made accessible to the public it is often found that they had been living in ignorance of what they really wanted—in fact, it is often the supply that creates the demand; and this was eminently the case with Mr. Rogers's venture. The success of his new business was so greatly beyond his expectations that he soon had to move to more commodious premises at Byculla, retaining, of course, an office and depôt in the Fort—the present head-quarters of the firm being at 3, Hummum Street. In due time the founder of the firm retired, leaving the business in the hands of his two sons, who with their successors have successfully striven to keep ahead of all rivals, and to-day Rogers is undoubtedly considered to be the leading and best aërated water-manufacturers in the Bombay Presidency. For many years the Byculla premises, as started by Mr. Rogers, were suitable and sufficient for all needs, but the increase of business more than kept pace with the increase in population, while an extensive mofussil trade also sprang up, and these two factors of increased demand have compelled the proprietors not only to enlarge their factory but to equip it throughout with machinery capable of dealing expeditiously with a much larger quantity of material in a given time.

A word as to the methods of manufacture. These have been completely revolutionized since the old days when the imperfect apparatus obtainable used to allow so large an admixture of chemicals that soda-water acquired a pungency it had no right to, nowadays not only is the main part of the operations carried out by steam power, but the manipulation of the syrups, etc., is also effected by machinery—an elimination of the "personal factor" desirable everywhere, but nowhere more so than in India. To drink "minerals" because the water is of doubtful purity is not always a logical proceeding, since microbes can live well enough in a lemonade or a pick-me-up; so Messrs. Rogers & Co. store their water in large slate tanks whence it passes through Pasteur filters (the most reliable purifier in existence) before use. Yet

Mr. H. Rogers.

to make assurance doubly sure Rogers & Co. make it a rule to have a complete series of waters analysed every day, and inspections are held of the cylinders and connections of the filters to see that they are kept perfectly clean. All this is in agreeable contrast to the methods employed in some of the other factories, where the water so far from being purified and made more wholesome than when it leaves the main, is actually polluted and rendered dangerous by the dirty hands and slovenly habits of the coolies employed to work the machines. In a country where pathogenic organisms flourish so abundantly and water-borne and dirt-borne diseases play such havoc, it is unnecessary to dwell on the importance of having mineral waters of an absolutely assured purity and the advantages of practically automatic manufacture.

If there is any drink less satisfactory than tepid water in the hot weather, that drink is a flat soda-water, but a reputation built up during sixty-eight successive years cannot be sacrificed for the sake of a few bottles, so Messrs. Rogers keep up a uniform high pressure in bottling, though the result is a certain proportion of casualties among the glassware.

Even high pressure is not everything in aëration, however. A very common fault with the supply of carbonic acid gas is that it contains a large admixture of air. This, combined with other carelessness, is an additional danger, as pure carbonic gas assists largely in sterilizing the water and not only this, but water aërated with impure gas, no matter what the pressure may be, has little sparkling flavour or "life." For these reasons Messrs. Rogers & Co. give very particular attention to the purity of their gas, with a result that the sparkle of their waters is unsurpassed.

The large carts drawn by those peculiarly massive bullocks affected by Messrs. Rogers, though a familiar sight in every street in Bombay, by no means represent the sum total of the firm's trade. You can travel over the whole network of the G. I. P. Railway and quench your thirst with Rogers's drinks all the way; while coasting vessels carry them all round India, and in many small out-of-the-way ports, visited neither by the Missionary nor the British trader, they are the only sign of civilization. In fact, amongst almost all the Europeans and leading clubs and hotels of Bombay the name of "Rogers" in connection with aërated waters is a household word.

Mr. THOMAS ALFRED ROSS, Assistant Manager, Harton & Co., Manufacturers, was born in Connemara, West Ireland, in the year 1849 and educated at Greenwich College, Upper School. In 1863 he joined Messrs. Soames Ships, London, to serve his apprenticeship, and was

six years with the firm, leaving them in 1869 to join the British India Steam Navigation Company. After serving with this Company for four years, he was promoted to Chief Officer. His B. I. service ended in 1877, when he joined the Calcutta Port Commissioners as an Assistant Superintendent of Jetties. He was appointed Store-keeper in 1879, in which post he remained till the end of 1895. In the last-named year he joined W. Harton & Co. as an Assistant, and in 1901 was appointed Manager of the firm, in which capacity he now remains. Mr. Ross holds a Master's certificate in the Mercantile Marine, and is the possessor of the Royal Humane Society's Bronze Medal for saving life. In this he follows the example of his father, the late Mr. Alexander Douglas Ross, who held 21 presentations from the Royal Humane Society for saving life. Mr. Ross has been a resident of Calcutta since 1867, and in all the succeeding years has never been out of India.

The ROYAL EXCHANGE ASSURANCE—Incorporated in 1720. This concern is one of the oldest business houses dealing with Fire, Life and Marine Assurance. It was originally a purely English Company

and up to the present day its Head Office is located within the precincts of the world famous Royal Exchange in London, a guarantee of its extreme respectability and solid foundation. The Corporation effects every kind of insurance connected with policies in Fire, Life and Marine business, but does not confine its operations exclusively to these departments of assurance. It offers facilities to the public in many other directions. Testators who are in doubt regarding the appointment of Executors and Trustees of their property left under wills may find reliable and painstaking agents in this Corporation. The Royal Exchange Assurance also undertake any description of business in connection with property both real and personal. They are prepared to act, when required, in the matter of settlements, and in agency for real estate. They are in a peculiarly favourable position to give confidence to those to whom the finding of confidential agents is desirable, as the finances of the concern are in a highly satisfactory condition. The solid foundation of the Company's affairs is evidenced by the fact that the funds in hand exceed the sum of £5,250,000 sterling. There are also other resources at their disposal, and with such a backing, they are enabled to place funds entrusted to them to the best advantage and offer investors the most unimpeachable security. The chief aim of the Directors of the Royal Exchange Assurance has always been to bear in mind in all business transacted by them the benefit of their constituents, and in this style of business they have found return in the universal estimation in which the Company is held. A reference to the Company's prospectus and to the undermentioned agents will obtain full information regarding the privileges granted to constituents and the conditions of the business. Assurance early in life is a decided advantage, and the Royal Exchange Assurance have very favourable terms to offer, and also solve the difficulty of finding a secure and profitable investment for surplus income. The Company has always distinguished itself by a prompt and equitable settlement of all claims made under the policies which it has granted. There are many branch houses of the Royal Exchange Assurance established in different parts of Asia, all carrying on business in the same manner as the head concern at home, and the following is a list of Agents empowered to transact business on behalf of the Company: Messrs. Gaddum & Co., Bombay, and Messrs. Andrew Yule & Co., Calcutta, for Fire, Life and Sea Insurances. The Fire Department is represented by Messrs. J. Grieve & Co., Cochin; Messrs. Mackwood & Co., Colombo; Messrs. Donald Graham & Co., Karachi; Messrs. Finlay, Fleming & Co., Rangoon; in which last-mentioned city Messrs. Binny & Co. are Agents for the Royal Exchange Assurance for Sea Assurance. For the same Department Messrs. Bois Brothers are Agents at Colombo. At Madras the Company are represented by Messrs. Parry & Co. in the Fire and Life Departments.

The ROYAL INSURANCE COMPANY of Liverpool, founded in the year 1845 by a number of influential merchants, may be said to have met from the outset the wants and support of the great trading community in which it originated. By a policy of liberality in dealing with its constituents on the one hand and by building up strong reserves on the other, the Company soon acquired a reputation amongst the insuring public at home, which was evidenced by the large amount of support it received. A vigorous extension of numerous connections and the development of its Agency system throughout Great Britain resulted in a large acquisition of business, and the Directors soon had to turn their attention to the foreign field for further expansion. India and our other Eastern possessions, America and the Colonies especially afforded a wide scope for their operations, and the first foreign Agencies were opened within a few months of the Company's formation, at Bombay and Calcutta.

History of the Calcutta Branch of the Company.

In 1875, the "Queen" opened a small Branch Office in Old Court House Street, Calcutta, for the transaction of Fire and Life Insurances and shortly removed to more commodious quarters in Clive Street, where it remained until 1891, when that Company was amalgamated with the "ROYAL." The latter Company continued to transact business in the old "Queen" Office, but were, in the meantime, looking out for a convenient site on which to erect a block of offices suitable to house their rapidly-growing business. In 1895, a site was acquired in Dalhousie Square, one of the most prominent situations in the European business quarter of

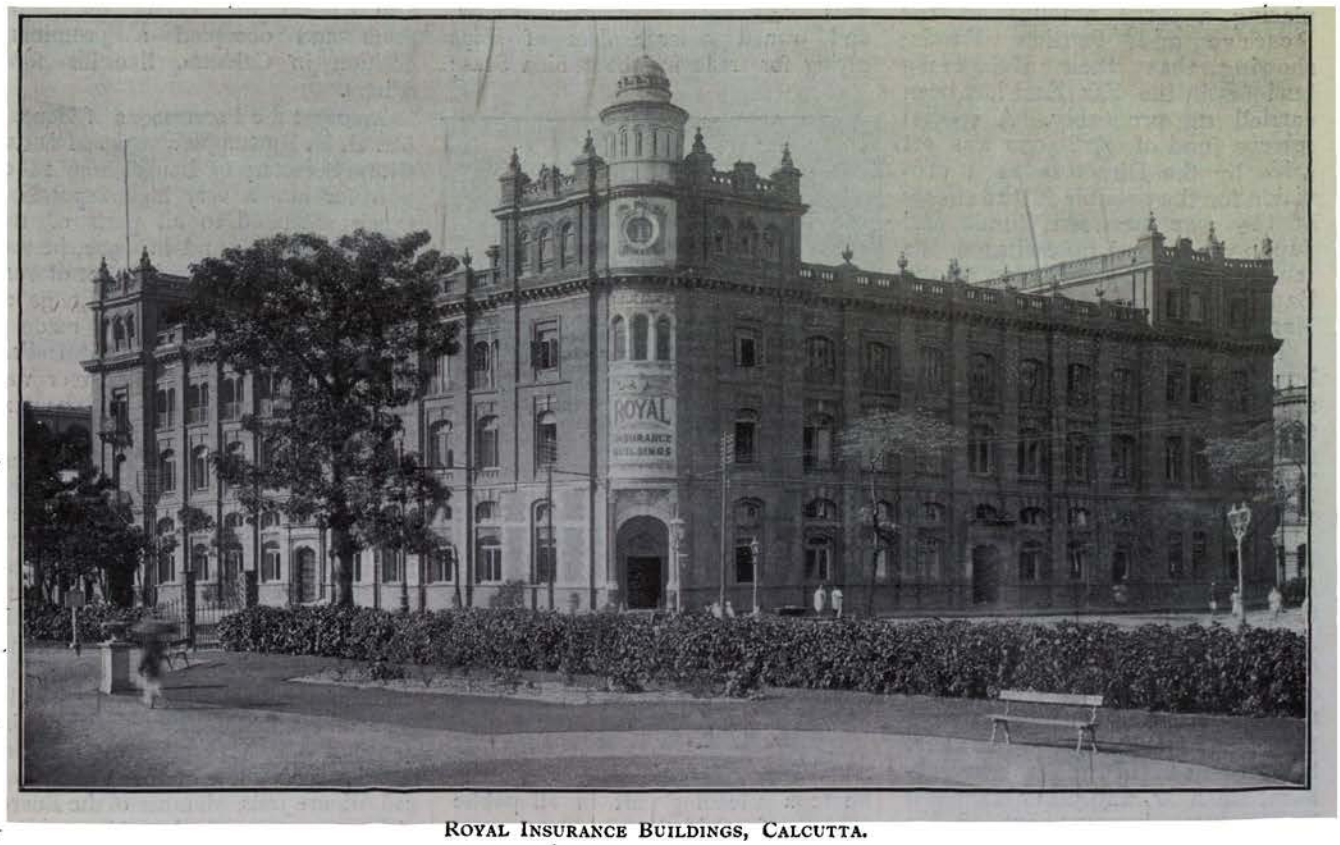
the city, on which was erected the large and handsome business block, designed by Mr. Banks-Gwyther, which is now universally regarded as a decided acquisition to the already existing architectural beauties of the Square. When completed the "ROYAL" will possess a block of offices worthy of its reputation and of the magnitude of its operations.

This Company, in addition to its Branch Office, which is under the control of the Secretary, Mr. Darcy Lindsay, is also ably represented in Calcutta by such well-known and influential firms as Messrs. Finlay, Muir & Co. and Messrs. Shaw, Wallace & Co. In the Mofussil, its ramifications have extended to such a degree that it is impossible to find a station or town of any importance which does not possess a "ROYAL" Agency.

The business of the Lancashire Insurance Company of Manchester was acquired by the "ROYAL" in 1901, and the existing Agencies of that Company held by Messrs. Graham & Co. and Messrs. Duncan Bros. & Co. were maintained. The "ROYAL" have further acquired a firm hold in the Fire Insurance field of Burma, where their local representatives are Messrs. Kruger & Co., Messrs. Steel Bros. & Co. and Messrs. Finlay, Fleming & Co.

The position to which the "ROYAL" has attained of being able to be described as the largest Fire Office in the world is in itself the most conclusive proof of its popularity as an Insurance Office.

Its steady development as a Fire Company is shewn by the following figures :—



ROYAL INSURANCE BUILDINGS, CALCUTTA.

YEAR.	FIRE PREMIUMS.	TOTAL FUNDS.
1850	£ 44,027	£ 330,657
1860	£ 262,978	£ 780,690
1870	£ 511,837	£ 1,924,042
1880	£ 933,078	£ 4,524,005
1890	£1,220,382	£ 6,343,978
1900	£2,078,299	£ 9,885,403
1903	£2,848,341	£12,666,666

The total Losses paid since the Company's inception amount to considerably over £50,000,000 sterling.

Mr. DARCY LINDSAY, Secretary of the Royal Insurance Company, is a native of Scotland, having been born in the year 1865, at Dunse in Berwickshire. He has been closely connected with insurance business for many years, and joined the Royal Insurance Company's Calcutta Office in 1891 as an Assistant. In the following year he went to Bombay as Manager of the Company's Branch there, an appointment he held for over nine years, and his personal popularity in the Capital of Western India added greatly to the success of his management. In 1901 Mr. Lindsay was transferred to Calcutta on his predecessor, Mr. James Cran, being invalided home, and assumed charge of this important Branch of the Royal's business. The Calcutta Branch controls the Company's many Agencies not only in Bengal, but also in the Punjab, the United Provinces of Agra and Oudh, the Madras Presidency, and in distant Burma. It is the most important office of the Company in India, employing a large staff, and in respect to the extensive business it transacts it is the largest Foreign Branch of the Royal if we exempt one or two of the American Offices.

The RUSSO-CHINESE BANK, Calcutta, founded in 1895 with a capital of nine million roubles; a steady expansion of its operations has on two occasions necessitated increases in capital, which now stands at fifteen million roubles, and in addition to this the Chinese Government have subscribed five millions of Kuping taels as their share of capital in the business. Taking the two together, the Bank has a capital aggregating in sterling over two million pounds, and on this in 1903 they paid a dividend of 8 per cent per annum, besides placing a large amount to the Reserve and Pension Funds; showing that their Banking business in the Far East has been carried on profitably. A special reserve fund of £180,000 was set aside by the Directors as a provision for the possible future effects of the war between Russia and Japan which had necessitated the temporary closing of some of the Bank's branches in Japan and Manchuria.

The Head Office is in St. Petersburgh and the affairs of the Bank are under the control of a Board of nine Directors, with Prince H. Oukhtomsky as President and Messrs. A. Wischnegradski and D. Pokotiloff as Managing Directors. The Bank has representatives in London, New York, Singapore and Bombay, branches established in Calcutta and Paris, and upwards of fifty others scattered throughout China, the Far East, and in some of the chief trade centres of Russia. Central Asia is also included within the scope of their operations, there being branches of the Bank in Bokhara, Kashgar, and other Khanates in that little known part of the world.

Mr. ALEXANDER MAIR, the Manager of the Bank's Calcutta Branch, belongs to Dumfriesshire, Scotland, and began his banking career some twenty years ago, in the late Oriental Bank Corporation's Edinburgh branch in 1884. Four years later he came out to the East (in 1888) and has since been connected with various Banking Institutions in Bombay and Calcutta until he joined the Russo-Chinese Bank as their representative in Bombay in 1903.

Mr. RUSTOMJEE HEERJEEBHOY MANACKJEE RUSTOMJEE is the present head of the leading Parsee family of Calcutta which has for over a century played a prominent part in the history of the City. Mr. Rustomjee Cowasjee, the first of the family to settle in Calcutta, came from Bombay in the early part of the 19th century and was a member of the ancient Banajee family of Bombay.

Mr. Rustomjee Cowasjee in the development of his business became known as the Merchant Prince of Calcutta. He did an extensive business between India and China, and owned a large fleet of ships plying for trade in the China Seas;

Mr. R. H. M. RUSTOMJEE.

he took a leading part in all public affairs of Calcutta, and was one of the Justices of the Peace. In 1839 a Church was built in Calcutta by Mr. Rustomjee Cowasjee for the use of his countrymen. The failure of the Union Bank in 1849 (before the days of limited liability), of which both he and his son, Mr. Manackjee Rustomjee, were Directors, proved very disastrous to both, and Mr. Rustomjee Cowasjee, crushed by the blow, died in 1852. He was succeeded by his son, Mr. Manackjee Rustomjee, the first Indian gentleman to become Sheriff of Calcutta, in 1874. He was also Consul for Persia for 20 years. In his time he occupied many important public positions. He was highly esteemed as one of the leading citizens of Calcutta and enjoyed the confidence both of Government and the people. Mr. Manackjee Rustomjee died in 1891, and was succeeded by his eldest son, Mr. Heerjeebhoy Manackjee Rustomjee, who in 1882 was nominated by Government as a Commissioner of the Corporation of Calcutta in place of his father. In 1902 he was appointed Sheriff of Calcutta, an appointment which evoked the hearty and general approval of all classes of the community. He was also Consul for Persia for eight years and occupied a prominent position in Calcutta, like his forefathers.

Amongst the Freemasons of Bengal, Mr. H. M. Rustomjee's work as District Grand Secretary of Bengal from 1880, won for him a very high reputation which extended to all parts of the British Empire; and in 1902, he was honoured with the appointment of Past Grand Deacon of the Grand Lodge of England. In 1903 he was made a Companion of the Order of the Indian Empire. His very useful career was brought to a sudden end by his unexpected death in 1904.

His eldest son, Mr. R. H. M. Rustomjee, then became the head of the family. In 1892, Mr. R. H. M. Rustomjee was appointed an Honorary Presidency Magistrate for Calcutta, and in 1899 an Honorary Magistrate for Sealdah. On the death of his father he was appointed District Grand Secretary of Bengal Freemasons; and was also nominated by Government in place of his late father as a Commissioner of the Corporation of Calcutta, non-official Visitor of the Presidency and Alipore Jails, Member of the Board of Management of the Alipore Reformatory School, and of the Calcutta Hospital Nurses' Institution. He was also elected in his late father's place as a Member of the Executive Committees of the District Charitable Society, Calcutta University Institute, British India Association, Calcutta Deaf and Dumb School, and of the Bengal National Chamber of Commerce. He is the Managing Director of the Howrah Docking Co., Ltd., and a Member of the Committee of the Association for the Advancement of Scientific and Industrial Education of Indians, and a Governor of the Mayo Hospital.

Messrs. E. D. SASSOON & CO., Merchants, 2-3, Clive Row, Calcutta. Partners, J. E. Sassoon (Bombay), E. E. Sassoon and M. E. Sassoon (Europe). This firm was established at Bombay in the year 1866 with branches at Calcutta, Karachi, Hongkong, Shanghai, Kobe, Manchester and London. The business of the firm is in imports and exports generally, but a speciality is made of the opium trade with China, the firm handling some 12,000 chests yearly. Messrs. N. I. Sassoon, S. S. Joseph and A. N. Sassoon manage the Calcutta Branch.

Mr. N. I. Sassoon, Manager of the Calcutta Branch, of Messrs. E. D. Sassoon & Co., was born in Bagdad, of the well-known Jewish family of that name, in the year 1853, and educated partly in Bagdad and partly at Bombay. He came to Bombay from his native place about 33 years ago. In the year 1873, he joined the firm of E. D. Sassoon at Shanghai as an assistant, and became a partner in 1880, but in the following year retired from the firm and returned to Bombay, where he started business on his own account, running his own firm as a merchant for some ten years. He was offered the management of the Calcutta Branch when the firm of E. D. Sassoon & Co. was established in 1891, and, upon accepting the appointment, came to Calcutta in that year. He is a Member of the Bengal Chamber of Commerce. His eldest son, Mr. Alfred Sassoon, has distinguished himself as the writer of meritorious poetry, his book "Llewelyn and other poems" having been presented by the author to T. R. H. the Prince and Princess of Wales during their tour in India, and accepted by them.

Mr. MOISE ABRAHAM SASSOON, Merchant, of 54, Ezra Street, Calcutta. Mr. Sassoon established the firm of which he is sole proprietor in the year 1890. The dealings of the firm are concerned with Gunnies, Indigo, Opium, and General Merchandise. There are both Import and Export Departments connected with the business, but the chief operations are in exports. In the year 1897 he went into partnership with Messrs. Meyer Brothers of Singapore, and carried on business in their joint interest in the Straits Settlements until, in August 1905, the partnership was dissolved, and Mr. Sassoon then entered into the same partnership relation with Messrs. R. Sassoon & Co., of Singapore. Mr. Moise

Mr. M. A. SASSOON

Abraham Sassoon was born in the year 1867 at Beyrouth in Syria and was educated in his native country. He came to India in the year 1890, and opened business as above noted in the same year.

Mr. ARTHUR ROBERT SHARP (*Captain, Bombay Volunteer Rifles*) sole proprietor of the well-known firm Tothill, Sharp & Co., Merchants and Manufacturers' Agents, Tamarind Lane, Fort, Bombay, was born in 1869 in London, where he was educated at the Vermont College. In 1886 he joined the firm of Ewart, Latham & Co., Bombay, and remained with them until 1889. In the year following Mr. Sharp commenced business on his own account in Bombay as Merchant and Manufacturers' Agent. Two years later he joined Mr. J. B. Tothill, who was carrying on business in the same line, and towards the end of the same year, Mr. Tothill having retired, Mr. Sharp became the sole proprietor.

His firm are wholesale representatives for the following well-known Manufacturers:—

Henri Nestlé & Anglo-Swiss Condensed Milk Co. of Switzerland and London.

H. J. Heinz Co., Mass., Manufactures of Food products.

Lewis Berger and Sons, Ltd., London, Varnish and Paint Manufacturers.

Aspinall's Enamel, Ltd., London.

Aerators Ltd., London, for Sparklets and Syphons.

Hope Hartope's Disinfectant Co., London.

Mackenzie and Mackenzie, Ltd., Edinburgh, Manufacturers of Biscuits.

John Gosnell & Co., Ltd., London, Manufacturers of Perfumery.

F. C. Fertig, Hamburg, Manufacturers of Lamps.

J. & J. Tauntons, Birmingham, Manufacturers of Beds.

Wright and Butler, Ld., Birmingham, Manufacturers of Lamps, and many others of less importance.

They do a large general indent business in piece-goods, hardware and sundries through London, Manchester, Birmingham and the Continent. Mr. Sharp was till lately an all-round athlete, and still takes a keen interest in sport generally. He was a powerful swimmer, a good cyclist, and a footballer, and is one of the promoters of the Bombay Rovers

Mr. A. R. SHARP.

Association Football Club. He has served with usefulness on the Committees of various clubs. He has

acted as Honorary Secretary and Treasurer of the Rovers and also the Harwood Association Football League. He is a Captain in the Bombay Volunteer Rifles and an excellent shot with the rifle; he gained a name for himself, and kept up the reputation of the B. V. Rifles by his fine performance at Bisley in 1898 when he headed the list of the Indian Kolapore Cup Team.

Messrs. R. SHARP & SON, Stevedores and Marine Contractors, Bombay.—This firm was established in Bombay in the year 1869 by Mr. Robert Sharp and was at first carried on in a small way, but its transactions rapidly increased. In 1878 Mr. Daniel Joseph Sharp joined his father in the conduct of the business and for six years worked as an Assistant gaining experience in the various departments and fitting himself for the promotion which ultimately came. In the year 1884 having a thorough command of all the various departments of the business carried on by the firm he was admitted a partner. The firm undertake the discharging and loading of cargoes from steamers and sailing ships. In this business they are the oldest established and leading firm in Bombay. They have been contractors for this purpose to the P. & O. S. N. Company since the year 1882. The pressure of work in this line is so great that at times they provide employment for up to 1,600 hands. They have similar contracts with Harris & Dixon's Line of Steamers, Nelson Donkin & Co. of London, Dillon's Gate Line, Sir James Laing & Son of Sunderland (Shipbuilders) and many other lines. The extent of Messrs. Sharp's business may be estimated from the fact that they employ some 20 Europeans in the superintendence of their various operations, besides a European Head Foreman. Mr. Sharp himself is a native of London where his large experience was gained in the service of Mr. Richard Green (now Messrs. Green & Co.). He made his way to the East in the service of the B. I. S. N. Co. and settled in India for the purpose of establishing his present business. Mr. Sharp, junior, was also born in London and was educated at Gray's College, Essex. He has been connected with the Volunteer movement since 1878, in May of which year he joined the Bombay Volunteer Rifles. Passing through the subordinate grades he received his Commission in 1887, and was elected Captain of "A" Company in February 1900. In 1901 he obtained the rank of Honorary Major. He has the Volunteer Decoration.

Messrs. SINCLAIR, MURRAY & Co., Calcutta (Partners, J. J. Sinclair and J. B. Crichton), Freight, Produce and Jute Brokers. The firm has numerous agencies in Northern and Eastern Bengal and are the agents of the Chittagong Jute Co., Ld., Narayanganj Co., Ld., and Northern Bengal Co., Ld.

Mr. J. J. SINCLAIR, a partner in the firm of Sinclair, Murray & Co., arrived in India in the year 1877 and for several years devoted himself to mercantile pursuits in various capacities. In 1892 he founded the present firm of Sinclair, Murray & Co. Mr. Sinclair is intimately acquainted with the freight and jute business, having had experience therein for over 20 years. He has been much interested in the local Volunteer movement and has identified himself with it since the year 1881 at the time of the formation of the Calcutta Light Horse with which body he served some 16 years, rising to be Troop Sergeant-Major.

THE SINGER MANUFACTURING Company, Head Office in India, Hornby Road, Bombay.—Although India is the best of all markets for British manufactures, it is not always easy to introduce a new thing in a conservative and distrustful land. This is well illustrated by the history of the Singer Sewing Machine in India. The Singer Manufacturing Company have always kept to their original principle of having their own agencies rather than trusting to the retail trade, but it was a method which was by no means successful at first. It was in 1875 that they first turned their attention to India, and appointed various agents in different parts. But except in one instance they did absolutely no business for the first seven months. Even the one successful agent, Mr. N. M. Patell achieved only the very moderate success of selling twenty machines in the first year. He persevered, however, and in 1880, having taken over the Madras agency, he travelled in the south of India for five months, and pushed sales with such success that the Company called him to London to make his personal acquaintance. The result of this visit was that Mr. Patell was appointed agent for India, Burma and Ceylon, but Mr. Patell did not have things all his own way even now. The Singer Machine was by no means first in the field in India. The Company had made such headway at home that for some years

Mr. N. M. PATELL.

their utmost efforts were required to keep pace with the demand of the home markets; and it was doubtless this success, which compelled the makers of other machines, to seek customers further afield. The consequence was that for fifteen years before Mr. Patell opened his modest little shop behind the Cathedral in Apollo Street, Bombay, India had been supplied with an assortment of machines of various makes; these were of sufficiently poor quality to lend no great encouragement to mechanical sewing, while in many cases their low price formed an irresistible appeal to people who desired to save money, but had not

sufficient knowledge of mechanism to make them qualified to judge at the time of purchase where true economy lay. The new agent general, therefore, had not only difficult and elusive competitors to cope with, but a plentiful supply of cheap imitations of the real article to contend with. These Mr. Patell industriously weeded out, and his efforts have met with such success that he now has control of 135 branches, while the importation of Singer's machines (now reckoned yearly in thousands) is more than three times as great as that of all other makes combined.

The industry which is now represented by a group of seven factories, with a capital of over fifty million dollars and whose output is over 20,000 machines a week, had a very humble beginning when Isaac Merritt Singer constructed his first machine with the aid of a borrowed capital of forty dollars and the use of a friend's small workshop. Night and day he worked, pondering over every motion, every detail of his invention, yet only preparing for himself bitter disappointment, for with all his care he forgot one essential—the tension screw. Through this little oversight, the machine when finished refused to work, and was almost on its way to the scrap-heap, when the inventor discovered that its only fault lay in the tension, and, having successfully regulated this, was able to put on the market the first sewing machine in 1850. Now, besides the immense factory at Kilbowie, near Glasgow, covering forty-two acres, there are six factories in America, and one near Vienna; and from the original machine made by Isaac Singer have sprung fifty distinct types, some of them having as many as one hundred varieties. The making of all parts to gauge is carried to the highest pitch of perfection, and whatever new piece is ordered, the buyer has an absolute certainty that it will fit. At the Kilbowie factory, there are immense stocks of raw materials, and the foundry cupolas work night and day to turn out the 130 tons of small castings required daily. As an instance of the extent to which labour-saving devices are used, may be mentioned a drilling machine which in one operation bores 23 holes, all absolutely true, in the body of the sewing machine.

In the gentle art of advertising the Indian Agent is an expert. A conspicuous decoration at Delhi at the time of the great Durbar was the Singer triumphal arch, made with transparencies and glass decorations, while at the Bombay Exhibition of 1904-05 the artistic pavilion of the Singer Company's exhibit was unsurpassed by anything on the grounds. Here they carried a Gold Medal and soon after followed with another Gold Medal at the Benares Exhibition. Medals to this Company are not things of rarity, as they have been victorious in every contest and have received Medals in all parts of the world.

A well-deserved mark of appreciation was shown to Mr. Patell in the invitation to visit the Chicago Exhibition of 1893 with Mrs. Patell as the guests of the Company. Mrs. Patell was one of the first Parsee ladies to visit America.

The present President of the Singer Company is Mr. Douglas Alexander, a man of great ability, business tact, experience and hard work; the business tactics of thousands of offices are at his fingers' ends.

Mr. Patell has not only made the sewing machine business his life's work, but appreciating the benefits of expert training, sent his son Mr. Pherosha Patell to London, under Mr. Henry Raper, the Company's representative in London, where he worked in the London office, and also in the Company's factory at Kilbowie, near Glasgow, and he is now assisting his father in the business.

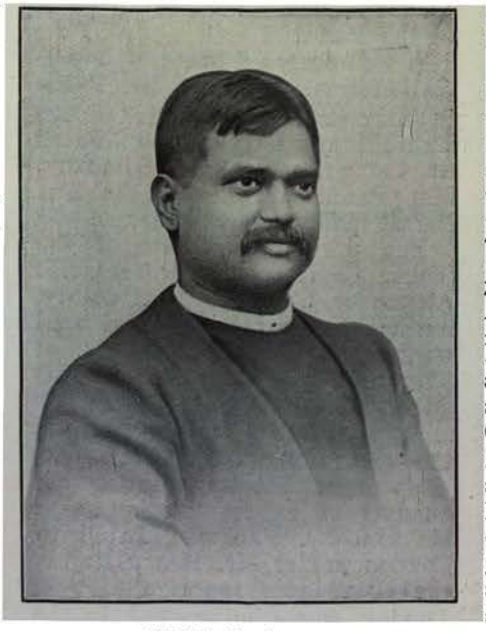
In the Bombay premises of the Company hundreds of machines are displayed working with hand, foot, or electric power

Messrs. SIRCAR & BARNARD, Colliery Proprietors, Calcutta. The partners started business together in 1899 when Babu N. C. Sircar secured from the Equitable Coal Co., Ld., the piece of coal land known as Horipore on his own and Mr. Barnard's account, during the absence of the latter in England. On the return of Mr. Barnard another property at Jheria known as Bhalgora was secured, and colliery work started under the name and style of Sircar and Barnard. Further coal properties were secured by the partners either alone or in partnership with Mr. T. C. Ambler and Babu A. N. Roy. Of these some turned out well and others were of less value, the only downright loss being sustained in connection with a piece of coal land at Nandy which proved an absolute failure. In September 1903, the firm secured from the New Beerbhum Coal Co., Ld., a perpetual lease of their Benalee coal land, an area of 4,300 bighas. In the latter part of 1903 Messrs. Sircar and Barnard, in view of the depressed state of the coal trade, decided to effect an amalgamation with other companies and proprietors, and negotiations led to combination with the neighbouring collieries of the Dudley Coal Co., Simlabahal Coal Co., Burragarh Coal Co., and a limited liability company was formed under the style of the Bhalgora Coal Company, Limited, with a capital of eight lakhs. T. C. Ambler, N. C. Sircar, R. Barnard and J. B. Gibb were appointed Directors, and the Bengal Coal Company were appointed Sole Agents. The Bhalgora Coal Company thus formed has since acquired more coal lands adjacent to their properties, bringing their area up to 2,100 bighas of first class land giving an average of 20,000 tons of steam coal monthly. Messrs. Sircar and Barnard disposed of their Nimcha and Horipore Collieries, which were not included in the above amalgamation, to the Baraboni Coal Concern, Ld., which was formed by the amalgamation of Babu N. C. Sircar's own coal business, and land held outside the partnership, with Babu G. C. Bose's Baraboni Colliery. The Baraboni Coal Company was formed with a capital of five lakhs with Babu N. C. Sircar as Managing Director and Mr. R. Barnard as Director and Chief Mining Engineer and G. C. Bose and N. Sircar as Directors. This Company has an area of 1,800 bighas of land and an output of 15,000 tons of steam coal monthly. Having made over their Bhalgora Colliery in this manner to the new Bhalgora Company and their Nimcha and Hori-

pore properties to the Baraboni Coal Concern, Messrs. Sircar and Barnard retained for themselves their Benalee property which they are now working under their own firm. They have also a large interest of the Kuardi Coal Syndicate formed to work 3,300 bighas of coal land between Raneeganj and Kalipahary containing the well-known Ghusick seam.

Mr. Robert Barnard, partner in the above firm, came to India in 1896 as Manager of the Bengal-Nagpur Coal Co., Ld., with whom he remained for some two and a half years. In August 1898 he started business for himself in partnership with Babu N. C. Sircar as above.

The late Mr. NALIN BEHARI SIRCAR, C.I.E., was the second son of the late Tarruck Chunder Sircar. He was born in November 1856, at Naihati, 24 miles North of Calcutta on the River Hughli where he had his family residence. He came to Calcutta in 1864 and was educated at the Hare School. After matriculating he read in the Presidency College up to the B.A. standard of the Calcutta University, and in 1880 joined his father's firm of Messrs. Kerr, Tarruck & Co., as an assistant. From his youth he was an ardent follower of the great reformer, Keshub Chundra Sen, and throughout his career he was notable for the liberality and broadness of his views. In 1881 he joined the Brahmo Somaj, that enlightened body of educated Indians who have done so much for their countrymen. He was one of the founders of that flourishing institution, the India Club, and served it continuously as Honorary Secretary. As a member of the Calcutta Corporation, Mr. Nalin Behari Sircar won his widest publicity. He was a strenuous fighter, and from the time he was elected as a Commissioner of Ward No. 4, in 1889, he made his influence felt in civic affairs. In 1897 he was appointed by the Government a member of the Calcutta Building Commission. Two years later came the great revolt when Mr. Nalin Behari Sircar together with 27 colleagues resigned their seats, as a protest against the passing of the new Municipal Law (Act III of 1899) in the face of strong opposition from the Indian community. In 1903 he re-entered the Corporation as a representative of the Port Trust, and his career was marked by vigorous criticism of Municipal methods and an energy that was characteristic of him. He did good work on the Calcutta Port Trust from the year 1892 when he was first elected as a representative of the Calcutta Corporation. Three times he had this honour. He was also appointed a member of the Port Trust in 1902 as a representative of the Bengal Chamber of Commerce and was re-elected in 1904. In August 1904 he was appointed a member of the Bengal Legislative Council as the representative of the Calcutta Corporation. The great confidence placed in him by the citizens of Calcutta was amply evidenced when he was appointed Sheriff of Calcutta for 1903-4. With all his manifold activities he



Mr. N. B. SIRCAR.

remained an energetic man of business. He was admitted as a partner in the firm of Kerr, Tarruck & Co. in 1891. He was made an Honorary Presidency Magistrate of Calcutta in 1893. The many services he rendered to the community were recognized by the Government of India in the bestowal of the Kaiser-i-Hind Silver Medal in 1900 and the C.I.E. in June 1902. He received the latter decoration at the hands of the Viceroy at the great Delhi Durbar of 1903, which he attended as a guest of the Government of Bengal. In 1904 he was elected Chairman of the Calcutta Import Trade Association of the Bengal Chamber of Commerce, and was re-elected in 1905 and 1906. This shows the high esteem in which this worthy Bengali gentleman was held by the European Mercantile Community in Calcutta.

Messrs. JARDINE, SKINNER & Co. (founded in 1841) is one of the oldest of the business houses in Calcutta. The present partners in the firm are Messrs. F. G. Steuart and W. A. Bankier, in Europe, Messrs. R. H. A. Gresson, and R. Jardine Paterson in Calcutta, and of these Mr. R. H. A. Gresson is the senior resident partner. Messrs. Jardine, Skinner & Company's head office is in Calcutta, and they are represented in London by Messrs. Matheson & Co., while Messrs. Jardine, Matheson & Co. represent them in China and the Far East.

Messrs. Jardine, Skinner & Co.'s operations embrace most of the chief industries of Bengal, and their interests in tea, jute, coal and shellac are very extensive ones, whilst in insurance and shipping they are also largely concerned. The firm are the Managing Agents for the Cachar and Dooars Tea Company, Limited, and the Bengal United Tea Company, Limited, these Companies having an area aggregating over 8,000 acres. In jute, the Kamarhatty Company, Limited, and the Kankanarrah Company, Limited, with a united capital of ninety-two lakhs of rupees, and running a total of over 1,700 looms and upwards of 3,000 spindles between them, are also under their management, and have so flourished as to render necessary large extensions to the first named Company. As Managing Agents for the East India Coal Company, Limited, and the Jherriah Coal Syndicate, Limited, Messrs. Jardine, Skinner & Co. hold a leading position in the coal industry of Bengal. For very many years the firm has been closely connected with the lac, dye and shellac trade, and own large factories at Buriaghat and Narghat at Mirzapore, in the United Provinces. The Insurance Department of the firm's business is a large and important one as they are the General Agents for the Triton Insurance Company, Limited, and the Manchester Assurance

Company with which is incorporated the Atlas Assurance Company, Limited, Managing Agents of the Eastern Insurance Company, Limited, and Agents for two Chinese Insurance Companies, the Canton Insurance Company, Limited, and the Hongkong Fire Insurance Company, Limited. In connection with Shipping, Messrs. Jardine, Skinner & Co. are the representatives in Calcutta of the Indo-China Steam Navigation Company, Limited, the Pacific Mail Steamship Company, the Occidental and Oriental Steamship Company and the Toyo Kisen Kaisha, the latter being a Japanese-owned line.

Mr. R. H. A. GRESSON, the senior resident partner, has been connected with the firm since 1892, and is a Director of the Bank of Bengal, Chairman of the Triton and Eastern Insurance Companies, Chairman of the

Mr. R. H. A. Gresson.

Indian Tea Association, Darjeeling and Dooars Sub-Committee, and a Member of the General Committee of the India Tea Association, and takes a prominent part in all matters connected with the advancement of the trade of Calcutta.

Messrs. BERTIE-SMITH & Co., Ltd., General Merchants, 23, Apollo Street, Bombay. This firm was incorporated in Bombay on the 21st August in the year 1900.

They deal principally in *Carbonic Acid Gas* which is imported direct from the Rhine, from the source of the celebrated Apollinaris and Johannis Table Waters. In addition to this, they are also Sole Agents in India, Burma and Ceylon for *Soda Water Machinery* of such distinguished makers as Messrs. Farrow and Jackson, Limited, London; *Essences* required for *mineral drinks* manufactured by the well-known firm of Messrs. Duckworth & Co. of Manchester and London; *the Pasteur-Mallie Filter* which is claimed as the only reliable and finest filtering apparatus extant, as proved by the latest tests of French scientists; *Odol* for teeth which is a recognized high grade antiseptic dentifrice; *Naftalan* which is a popular modern treatment for Eczema and allied diseases, and *Munyon's Homœopathic Home Remedies*, etc., etc. Sir Jamsetjee Jeejeebhoy, Bart., is the Chairman of the firm, Messrs. G. W. Moir, J. E. Aspinwall and Hugh S. Symons are Directors, Mr. J. Stanley Smith is Managing Director, Mr. Arthur N. Wise is General Manager, and Mr. Talegamkar Isaac Abraham is Manager.

With such an able Board of Management, the firm carries on its business now in a flourishing condition. There is a great demand for their articles, and the work in their office is always very brisk. They have agents in Calcutta, Karachi, Delhi, Colombo and Rangoon.

The following brief sketch will be read with interest by those interested in the question of the Technical Education in India:

Mr. Talegamkar Isaac Abraham, the Manager of the firm, is a Beni-Israel by birth and was born in Bombay in 1868. He received his education at the Robert Money School and also at the Bombay Victoria Jubilee Technical Institute where he received the first Scholarship of Lord Reay and passed in the first class and was the first successful student who came out with the title of L.T.M. He first served as a carder and spinner at the Bhownagar Mills, on leaving which a large garden-party was given in his honour by the employees of that Mill. The following extract from his certificate will show how successful he was in his first attempt: "He has shown himself as much a practical as a theoretical man.

He was always found zealous and persevering, and it must be mentioned to his credit that he efficiently worked his departments for months together without jobbers.

We are glad to say that Mr. Isaac possesses a good knowledge of fancy weaving also."

He then served as a Manager and Secretary in the Ahmedabad Ginning and Manufacturing Company, Ltd., which is one of the largest mills in Guzerat. He also got several students passed out in cotton spinning from the City and Guilds Institute of London, the examination being held in the Technical Institute, Bombay. Being possessed of such qualifications and commercial education in the cotton line, Mr. Abraham was recognized as an expert by the Law Courts of Guzerat on points of disputes in connection with the cotton industry. After some time he had to leave Cotton owing to ill-health, when he was presented with an address in a meeting presided over by Diwan Bahadur Ambalal Sak from which we give short extracts. "Your promptness in helping others at great personal inconvenience and sacrifice has been simply unique.

Suffice it to say, that we look upon your departure as a great loss to the Ahmedabad cotton industry in general and to us in particular."

He then joined Messrs. Y. H. Desai & Co., the well-known wholesale precious stone merchants of Bombay, who are also the Bankers of Messrs. Bertie-Smith & Co., Ltd. Mr. Abraham was the chief contributor to a newspaper called the *Beni Israelite*, and he is author of many books in Marathi, both prose and poetry, the most popular of which is the essay on "The Talmud," and his translation of the school system of Talmud originally written by the well-known Revd. Spiers of England.

In addition to this as a lover of Indian Music he has been since 1880, Secretary to the "Keertonoejak Mandaly" which carries on

religious preaching, accompanied by music, and he is also a prominent member of the "Society for Promoting Moral and Religious Education amongst Hebrews" on whose behalf he has delivered several public lectures in Bombay and in the Kolaba District.

Messrs. McVICAR SMITH & Co., Jute Balers and Shippers, Calcutta. The firm, which originally carried on business under the style of D. A. Smith & Co., was founded in the early sixties. In its inception it was established as representative of Dundee spinners. Mr. McVicar Smith's connection with the firm dates from the year 1869, when he came out to India and joined Messrs. D. A. Smith & Co. in the capacity of Assistant. In 1873, Mr. McVicar Smith continued the business under its present style and designation. The firm now carry on a general jute business, and in this trade it is one of the oldest houses extant.

Messrs. SCHRÖDER, SMIDT & Company, Calcutta and Bremen. This firm was established in 1862 by Johannes Schröder and Johann Smidt. The present partners are Johann Smidt, George Smidt and Herman Smidt in Bremen, and Heinrich Johannes Sanders in Calcutta. The firm deals mainly in general produce, such as rice, cotton, hides and skins, wheat and seeds, etc., also in English and Continental manufactured goods. In addition the firm has an Engineering and Electrical Department representing large Continental concerns. It has also Insurance and Shipping Departments. The firm in India employs several thousand natives. It has agencies at Bombay, Cawnpore, Delhi, Dinapore, and sub-agencies at all principal stations throughout India.

The SOCIETA COLONIALE ITALIANA opened business in Bombay on the 1st of January 1901 as General Merchants, Exporters and Importers. Their Head Office is in Milan, Italy, with branches at Aden and Hodeidah in Arabia, Mombasa in British East Africa, Mogadiscio in Italian Somaliland, Massowah on the Red Sea, and Shanghai and Canton in China, with a large mining concession in Corea. The firm exports all kinds of produce from India, and imports from all countries in Europe, especially Italy and North America. They are Agents for the Societa Veneziana di Navigazione a Vapore, Venezia (Venice Steam Navigation Co.) and of the L'Universo Compagnia Italiana d'Assicurazione contro i rischi dei Transporti of Milan (Universe Insurance Company). They are also Agents at Massowah and Mombasa for the Austrian Lloyds Steam Navigation Co., and at Massowah and Aden for the Navigazione Generale Italiana, Florio & Rubattino United Companies. The branch at Shanghai is specially concerned in banking transactions, while at Massowah large contracts have been secured for railway supplies. In Mombasa the firm own rubber plantations, which commodity they export to Europe. The President of the Societa Coloniale Italiana is Barone Alberto Treves de Bonnfili, and the Vice-President, Commendatore Augusto Stucchi; the Managing Director being Commendatore G. Ianni, whilst the Manager for Bombay is Mr. F. H. Naish of London. The firm have a paid-up Capital of £3,200,000 and do their own banking in Bombay for their various branches.

Mr. FRANK HUBERT NAISH, Manager, Societa Coloniale Italiana,

Mr. F. H. NAISH.

Bombay Branch. Born 1878 and educated at the South Eastern College, Ramsgate. Mr. Naish has passed nearly the whole of his business career in the service of the Societa Coloniale Italiana, entering their service in the year 1899. His services were first utilized in British East Africa, and from there he travelled in the firm's interest all over German East Africa, Uganda and British Central Africa. He has held the Company's power of attorney for Zanzibar, Aden and Hodeidah.

Messrs. D. SOLOMON & CO., Jute Fabric Brokers, No. 9, Grant's

Mr. S. ARAKIE.

Lane, Calcutta. Partners, Samuel Ezra Arakie, Ezra Solomon Gubboy and Nissim Silas Ezra. This business was established by the late Mr. David H. Solomon in the year 1870. Mr. Solomon continued to conduct its affairs till his death in 1900, and after that event the business was carried on by his surviving partners, Messrs. Arakie and Gubboy. In 1904 Mr. N. S. Ezra was admitted a partner. The principal business of the firm is carried on in jute fabrics. They are Members of the Calcutta Jute Fabrics Association. The standing the firm has attained is largely due to continuance of the sound business policy of the late Mr. Solomon by the present partners. Mr. Solomon was one of the oldest Gunny Brokers in the city and greatly respected by the Euro-

pean merchants. Mr. S. E. Arakie, the present senior partner, was born in the year 1854 and educated at the Doveton College, Calcutta. He gained his first business experience in the firm of Messrs. Graham & Co., which he joined in 1881 as an Assistant in the Shipping Department. After 5 years in this office he started the firm of Sam & Aaron Arakie as bone suppliers to Messrs. Arakie Bros. in which both S. and A. Arakie were partners. This firm subsequently assumed the style of Croft, Wells & Co. Mr. Sam Arakie left Arakie Bros. in 1888 and joined his present firm of D. Solomon & Co., in which, in conjunction with his partners, he has since acquired the leading interest. Mr. Arakie is the Honorary Secretary of the Maghen David Synagogue in Calcutta, and Joint Honorary Secretary of the Jewish Burial Ground. Mr. E. S. Gubboy, the second partner in the above firm, is the adopted son of the late Mr. D. Solomon. He was born in Calcutta in the year 1872 and educated at the Jewish School, Calcutta. Mr. Gubboy has passed his entire business career with the firm. Mr. N. S. Ezra, the third partner, is the son-in-law of Mr. S. E. Arakie. He was born in Calcutta in the year 1883 and educated at St. Xavier's College. His partnership in the firm is his first business experience.

The STANDARD JUTE COMPANY, Ltd., Calcutta. Among the many mills in Bengal engaged in the jute industry none is entitled to more extended mention than the Standard, as though it may not perhaps be the largest of its kind in the Presidency, its completeness in every detail, and the high class of its manufactures, place this mill in the front rank of manufacturing concerns in Bengal. The mill is situated at Tittaghur on the Eastern Bengal State Railway, and is close to the station of that name; the site is a well chosen one, as the property has on one side a water frontage on the Hooghly River of over 600 feet, and on the other the railway, from which a siding runs to the mill, thus providing it with every facility for the reception and delivery of raw and finished materials. The area of the property is over twenty acres in extent, and the mill was erected in 1896, but so rapid has been the development of its business that in 1902 further extensions became necessary, and these, doubling it in size and capacity, have since been made. The mill building is of brick and iron with a terraced roof, its dimensions being 515 by 440 feet, and the motive power used is steam, whilst for lighting purposes 1,900 16-candle-power electric lights are used. The main engine, one of Messrs. J. & E. Woods of Bolton, is the largest on the river, its flywheel being 27 feet in diameter, over which pass 50 "Lambeth" cotton driving ropes. Besides the mill building itself, together with the necessary engine house, boiler houses, godowns, dynamo house, weighing house, etc., in the same compound stand a large two-storeyed bungalow for the European Assistants, the Manager's house, store house and the dispensary, and on the river bank are two jetties extending into the river, each fitted with a steam crane with a lifting capacity of 3 tons. Appliances for the successful combating of an outbreak of fire are numerously distributed all about the yard and buildings, some 1,400 feet of fire hose and scores of fire buckets being all readily placed in case of need, and the two "Cameron" pumps used for feeding the boilers are in the yard, to which, in the event of fire, the hoses may be attached as well as to hydrants in the yard. The mill consumes upwards of 50 tons of "Barrakur" coal daily, and employs a labour force of over 3,000 natives, under the supervision of the Manager and 10 European assistants.

The godowns, seven in number, occupy a building 490 feet long, 45 feet wide and 30 feet high, and have a storage capacity of 45,000 bales of jute, and there is also an hydraulic jute press used for the purpose of economizing space, as much of the jute is delivered loose, or but loosely baled, and the godowns, in spite of their enormous size, would not, unless the material were pressed, hold the large stock constantly kept on hand. In another department careful tests are made of the quality of each consignment of raw material as it is received, 5 per cent of each 1,000 bales being tested, and on the test being satisfactory the bales are opened and due proportions of the hard and the soft jute are combined, a superior "spin" of yarn being thus obtained. In the Spinning Department there are 10,848 spindles and in the Weaving Department 502 looms always busily at work turning out the fabrics in which the mill deals.

The health and well-being of the native employees have received special attention at the hands of the Company, as at a little distance from the mills a model settlement has been built for them, laid out in streets, and the houses are constructed of brick and cement, two large tanks having also been made for their especial use, whilst pure filtered drinking water is available from hydrants erected in several parts of the settlement. The land upon which the settlement is built, was prepared with special reference to improved drainage and sanitary arrangements, the site being raised by at least two feet above the level of the surrounding land, thus ensuring the houses being always dry and comfortable, offering a pleasing contrast to the squalid native huts often occupied by mill hands.

The mill is in direct telephonic communication with the Managing Agents' (Messrs. Bird & Co.) offices in Calcutta, and since its erection a decade ago, has through the skill, energy and economy, with which its interests have been safeguarded, attained the high position it now holds in the jute industry of the Province.

Messrs. E. SPINNER & Co., Import and Export Merchants,

The late Mr. E. SPINNER.

Manchester and Bombay. This firm was founded in 1871 by the late

Mr. Emil Spinner, Sr., who died in 1904 after a very successful career. The partners are Mr. Fred. Spinner and Mr. John Spinner, the Bombay Manager being Mr. Henry Kreis. They have been very successful in their business, the most important achievement being the introduction into India of "Leemann and Gatty's original patent fast-dyed Khaki" which is considered the best of its kind imported into this country and most serviceable for the troops on account of its invisibility and durability of colour. They are contractors to H. M.'s War Office, India Office, etc.

Messrs. NORMAN, STEWART & Co., Naval Architects and Marine Surveyors, Calcutta, established 1894. The partners of the firm are

Mr. W. H. Norman.

Mr. W. H. Norman and Mr. W. L. Stewart.

Mr. WILLIAM HENRY NORMAN, the senior partner, was born in 1845 at Barnstaple, N. Devon, has been connected with shipping and its construction from an early age, and was educated as a naval architect in H. M. Dockyard at Deptford (Eng.). After working at his profession in England for some years, Mr. Norman came to India in 1874, and for twenty years occupied the responsible position of Manager of the Dock and Shipbuilding Yards at Calcutta and, on relinquishing that appointment, became a Marine Surveyor in Calcutta, which business he has carried on successfully for some years. Besides being Surveyor to most of the principal steamship lines running to Calcutta, Mr. Norman's firm are Surveyors to Lloyds Agents, the British Corporation, the Bureau Veritas, and also hold the position of Certified Marine Surveyors to the Government of Bengal. As Vice-President of the Devonian Society in Calcutta, Mr. Norman has done much to keep green in the hearts of his fellow-countrymen the memories of peaceful Devonshire, and to further the interests of Devonians in India. The annual Devonian Dinner held each cold weather in Calcutta under the auspices of the President of the Society, Sir Frederick R. Upcott, C.S.I., K.C.V.O., is one of the cheeriest social functions of the season.

Mr. WALTER LESLIE STEWART, Master Mariner, Commander, R.N.R., A.I.N.A., member of the firm of Messrs. Norman, Stewart & Co., Calcutta, was born in 1859, in London, and educated there; Captain Stewart entered upon a seafaring life at the age of sixteen, joining the Mercantile Marine in 1875. After passing through the several grades from apprentice to Master Mariner, Captain Stewart held command in various steamers belonging to the British India Steam Navigation Co., for upwards of fifteen years, being chiefly employed on the London to India and Australian lines of that Company. He has also visited Japan, and has seen something of active service, being chief officer of the S.S. *Bulimba* when serving as Hospital Ship during the fighting round Suakim of 1885—1886, which campaign included the big fight recorded in history as McNeil's Zareeba. Captain Stewart earned the medal for Transport Service during the Boer War, making several voyages to South African ports whilst in command of steamers taken up for transport duties.

To the more peaceful calling of Naval Architect, he adds that of being a Commander in the Royal Naval Reserve. He retired from the active life of a Commander in the Mercantile Marine in 1904 and joined the firm of Messrs. Norman, Stewart & Co., of Calcutta, Marine Surveyors, as the junior partner.

Mr. GEORGE HENRY SUTHERLAND was born in London in 1866. He was educated at Westminster and gained an experience in business in London for two years before arriving in Calcutta in 1886. He entered the well-known firm of Messrs. Begg, Dunlop & Co., his father, the late Mr. H. H. Sutherland, being then a partner. Mr. G. H. Sutherland himself became a partner in 1890. He was President of the Chamber of Commerce in 1900, and in 1901 he was appointed to the office of Sheriff of Calcutta. During his year of office, he had the distinction of proclaiming the accession of King Edward VII to the throne. In 1903

Mr. G. H. Sutherland.

Mr. Sutherland was appointed a member of the Calcutta Port Commissioners. In the same year he was appointed a Trustee of the Indian Museum by the Lieutenant-Governor of Bengal, which office he continues to hold. For two years, 1900 to 1902, he was the Commercial Member of the Bengal Legislative Council. Mr. Sutherland is widely known and respected throughout Calcutta. He has served in many important public offices, always with ability and distinction. Both as President of the Chamber of Commerce and Sheriff of Calcutta he held the highest posts that could be allotted to a business man, and Mr. Sutherland amply justified the trust reposed in him. Mr. Sutherland is a Director of the Bank of Bengal.

The STANDARD LIFE ASSURANCE COMPANY is by far the oldest established institution of its kind in India and the East, where it commenced operations so far back as 1846. Commanding as it does the veneration due to age it must nevertheless on no account be imagined that this long-established concern shows any signs of falling off in its pristine vigour. The published Reports continue to testify year by year to results such as are achieved by few other Companies, and the unbroken success which has characterized the development of the Standard's business here and elsewhere must be a source of great satisfaction to all whose interests are bound up with that Company.

STANDARD BUILDINGS, CALCUTTA.

Life Assurance may be regarded as one of Scotland's national industries, and the Standard occupies a place in the very forefront of the many successful Insurance Institutions of Scottish origin. It was established in Edinburgh in the year 1825, its original name being "The Life Insurance Company of Scotland," and, after an existence of seven years under this title, in 1832 the present name of "The Standard" was adopted—a special Act of Parliament being passed in that year for confirming the Rules and Regulations of the Company. In this Act the objects and business of the Company are defined to be "to effect or make Insurances on Lives and Survivorships, to make or effect all such other Insurances connected with life, to grant, purchase, and sell Annuities for Lives or otherwise, to grant Endowments for children or other persons, and to purchase and sell reversionary Rights and to receive Investments of Money for Accumulation." It will thus be seen that the Standard's business is confined to Life Assurance in its various phases; it does not undertake Fire or Marine Insurance, and the whole of its Accumulated Funds, amounting at the present time to nearly eleven and a half millions sterling, are available for the purpose of fulfilling contracts of Life Assurance.

In 1846 the Directors of the Standard, being impressed with the conviction that Life Assurance in India and the Colonies might be safely undertaken at rates commensurate with the risk, turned their attention to the extension of their business to these quarters, and, after long and careful inquiry, resolved to establish a new Company, having for its particular object Colonial and Foreign business.

The "Colonial Life Assurance Company" was then established, and for twenty years maintained a large business in India and the Colonies, conferring important benefits on many persons whose families would have been left in poverty and distress had they not had the advantage of Life Assurance brought home to them. Its progress was most satisfactory in every respect. It realized large profits, in which the policy-holders participated, and it secured a large and influential connection.

In 1865 the Directors of the Standard and the Directors of the Colonial Company considered it would be for the interest of all connected with these Companies, seeing that the Direction and Management were composed very nearly of the same persons, to form an amalgamation between them, and the junction was completed on 19th March 1866.

The Colonial Company had introduced new and important features into Life Assurance practice by publishing rates calculated for foreign residence, and by establishing Agencies abroad, thus affording increased facilities to persons whose views or occupations might lead them to travel or reside in other countries. By its means also the

benefits of Life Assurance were extended to India on such beneficial terms, and under such liberal conditions as improved knowledge and the circumstances of the times authorized and required. Since the junction of the two offices under the name of the Standard, the Indian and Colonial business has been carried on and extended simultaneously with the Company's Home business, increasing steadily and continuously down to the present day.

It should be mentioned that the rates of premium charged by the Standard for residence in India are based entirely on that Company's own experience of the incidence of mortality amongst assured lives in the country. Owing to the length of time the Standard has transacted business in India, and the magnitude of its operations, the Company has been enabled to compile very reliable mortality statistics, and the Actuarial profession is indebted to the late Manager of the Standard, Mr. Spencer C. Thomson, for an important paper on the subject, which was contributed by him in April 1903 to the *Transactions of the Faculty of Actuaries.* This paper contained information of a kind long desiderated by Actuaries, and the data therein, *i.e.*, the mortality experience of the Standard, will no doubt be found of great assistance to future investigators on the subject of Indian mortality.

In addition to its large and constantly increasing Home and Indian business, the Standard flourishes in nearly every part of the British Dominions, as well as in many foreign countries. Branches and Agencies are established in China, Ceylon, Mauritius, the Straits Settlements, Canada, South Africa, Egypt, West Indies, Belgium, Hungary, Spain, Denmark, Norway, Sweden, Argentina and Uruguay. In fact, it may be said that the Standard Life Assurance Company, while maintaining its position in the front rank of Life Assurance Companies in the United Kingdom, has developed of late years into the most cosmopolitan of all the British Life Offices.

The progress of the business of the Standard is exhibited in the following table, which shows the amount of New Business carried through during each of the last eleven quinquennial periods:—

Years.	Number of Policies.	New Sums Assured.
		£
1850-1855	4,608	2,492,988
1855-1860	4,672	2,815,455
1860-1865	6,559	3,834,365
1865-1870	9,190	5,713,813
1870-1875	9,318	6,048,364
1875-1880	9,499	6,193,186
1880-1885	11,925	6,714,260
1885-1890	13,481	6,928,895
1890-1895	19,035	8,956,336
1895-1900	24,401	10,109,018
1900-1905	26,383	11,752,453

During its eighty-one years' existence the Standard has witnessed many and varied changes in the world of Life Assurance. New Companies have been formed from time to time, have startled the world with a great flourish of trumpets, and from inherent unsoundness or other causes have in course of time been wound up or otherwise ceased to exist. Other Companies have, for various reasons, merged their business and become absorbed in larger and more prosperous institutions; and it may be of interest to give a list of Life Assurance Companies whose business and connections have been taken over by the Standard:—

Names of Offices.	Date of Establishment.	Date of transfer to Standard.
Commercial (No. 1) ...	1821	1846
York & North of England ... (afterwards York & London)	1834	1844
Minerva	1836	1864
Victoria	1838	1865
Commercial (No. 2) ...	1840	1846
Experience	1843	1850
Legal & Commercial ...	1845	1865
Colonial & General ...	1846	1847
London & Provincial ...	1847	1865

The Standard has ingratiated itself with the assuring public by reason of the very liberal conditions attached to the Policies issued by the Company and the constant adoption by the Directors of all improvements and facilities bearing on the contract of Life Assurance. Easy terms for revival of lapsed Policies, prompt settlement of claims, liberal surrender and loan values are among the many inducements held out by the Standard to all who contemplate effecting Assurances with that Office.

The last published Annual Report of the Standard—that for the Financial Year ending 15th November 1905—revealed the following excellent results of the year's operations:—

Amount of Assurances Proposed during the year (7,608 Proposals)	£3,293,991
Assurances Accepted, 6,248 Policies for	£2,535,408
Annual Premiums on New Policies	£110,018
Amount Received in purchase of Annuities	£161,564
Claims by Death during the year	£643,886
Claims under Endowment Assurances matured during the year	£117,465
Subsisting Assurances ...	£28,900,165

The Annual Revenue was £1,464 777, and the accumulated Funds amounted at the end of the year to £11,383,892.

The responsibility of safeguarding such a huge sum as the Standard Accumulated Funds amount to, and investing it in such manner as to combine absolute safety with a remunerative rate of interest, is, it may well be imagined, no light one, and the fact that the Directors of the Company have for some years past succeeded in realizing an annual rate of interest of well over four per cent testifies to the skilful way in which the Company's finances are managed. It may be mentioned that the area of investment and the classes of security in which the funds may be placed have been extended of late years under the provisions of the Company's Acts of Parliament, and this of course calls for more frequent revision than formerly of the individual investments—a circumstance the Directors have

been careful to provide for. The Standard's Indian, Colonial and Foreign connections give very favourable opportunities of securing safe investments in some countries abroad where the conditions are favourable, and of such the Directors consider it right and proper to take advantage as occasions arise.

The Standard possesses in Calcutta a handsome pile of buildings erected in 1895 from the designs and under the supervision of that eminent Architect, the late Mr. F. W. Stevens, C.I.E.

The business is conducted by a Resident Secretary assisted by a numerous European and Native Staff under the direction of a Local Board of Directors composed of leading members of the Mercantile Banking, and Legal professions.

Messrs. STEIN, FORBES & Co., Ltd., established themselves in Calcutta as Merchants and General Agents in the year 1901, and have branches under the same title in London and Hamburg, their representative in America for the whole of the United States, in which country the bulk of their business is done, being Mr. R. B. Fuller, Boston. Messrs. Stein, Forbes & Co. command an extensive business in hides and skins and in the export of raw material, their dealings aggregating over £300,000. The partners in London are Mr. J. J. Stein, and in Hamburg, Mr. H. Volger, Calcutta being represented by Mr. Arthur F. C. Forbes, whose experience of India dates back to three decades, thirteen years of which have been occupied as a specialist in the hide business. Mr. Forbes was for a number of years in the well-known house of Messrs. F. W. Heilgers & Co., Calcutta. Mr. Forbes was a member of the Committee of the Chamber of Commerce from 1882 to 1886.

The SOUTH BRITISH INSURANCE COMPANY is one of the leading Colonial Companies, having been born in Auckland, New Zealand, in the year 1872, and has Branches in every important town in the Colonies as well as in the United Kingdom, South Africa, India and the Far East. It is likewise represented by Agents in every port and city of importance throughout the world. Since the formation of the Company in 1872, losses have been paid amounting to £4,359,135, and it is a recognized fact wherever this Company transacts business that claims are liberally and promptly settled and the interests of the clients of the Company carefully looked after.

The Company has become purchasers and successors of the following Companies, *viz.*—

Commercial Marine Insurance Company of South Australia.
Adelaide Marine and Fire Assurance Company (South Australia).
Mutual Union Insurance Company, Limited, Fire and Marine (Tasmania).
Straits Marine Insurance Company (Singapore).
Equitable Marine and Fire Insurance Company (Capetown).

The capital of the Company is £1,900,000 (all fully subscribed), of which £100,000 has been called up, while the funds in hand total over half a million sterling, affording a striking proof of the stability of this leading Colonial institution.

SOUTH BRITISH BUILDINGS, CLIVE STREET, CALCUTTA.

Mr. VICTOR MURRAY, the Manager for the Far East, was born in Lanarkshire, N.B., on the 28th of March 1856; being the youngest son of the late Joseph Murray, Publisher, one of the founders of Murray's Time Tables. Mr. Victor Murray was educated at the famous old High School of Glasgow, now long since defunct He began his Insurance career in 1876 in the firm of Messrs. Rose, Murison & Thomson, the well-known Insurance Brokers of Glasgow, and continued with them until 1879, when he went to London and joined the London and Lancashire Fire Insurance Company, with which Company he remained only a short time. On the outbreak

Mr. V. MURRAY.

of the Afghan War of 1878-79-80 Mr. Murray's military instincts were aroused and he enlisted in London in the 1st Battalion, Rifle Brigade (known to fame as the Duke of Wellington's Sharp Shooters or Black Bag of Nails), the Battalion being then under the command of Lord Edward Pelham Clinton, H. R. H. the Duke of Connaught being second-in-command. On the Battalion being ordered to the front under the command of Lord Edward Pelham Clinton, Mr. Victor Murray, although under twelve months' service, was permitted to accompany it, but while *en route* to Bombay on board the Troopship *Jumna*, cable instructions were received for the Battalion to proceed to Poona, the Afghan war having been practically terminated by the battle of Kandahar, fought on 1st September 1880—this was naturally a source of great disappointment to all concerned. Mr. Murray was promoted a non-commissioned officer a few days after reaching the Depôt at Winchester and was a member of the Sergeants' Mess within thirteen months from the date of enlistment. Mr. Murray's military career continued till 1887, when he left the Army with the rank of Staff Quarter-Master-Sergeant, having been on the Staff of the Bombay Army for nearly four years under their Excellencies Lord Hardinge and the Duke of Connaught. In June 1887 Mr. Murray returned to Civil life, joining the South British Insurance Company at Bombay, and assuming the Managership of that Company's Bombay Branch in July 1888.

In 1891 he was transferred to the charge of the Eastern Branch of the Company at Calcutta, controlling seventy Agencies, extending to Vladivostock, China, Japan, Philippines, Cochin China, Java, Straits, Ceylon, Burma, Madras and the Bengal side of India. When Mr. Murray assumed charge in Calcutta, the Far Eastern business was of a small nature and his entire staff consisted of one European Assistant and six Natives, the business has now so largely developed throughout the Far East, owing to strict attention to business and the prompt and liberal manner in which his Company adjust and settle all claims, that employment is found for seven European Assistants and over 75 Eurasian and Native Clerks.

The Company's business has been recently transferred to their new and splendid building in Clive Street, erected at a cost of over six lakhs of rupees, and one of the finest edifices in that locality.

Mr. Murray has held the position of Chairman of the Marine Association for a period of eleven years, and has likewise been more or less a member of the Committee of the Calcutta Fire Insurance Agents' Association during the same period; he was elected Chairman of that Association in 1903.

Mr. Murray has been a Mason for the past 21 years, and is a Past Master of Lodge "True Friendship," No. 218, E.C., and a member of Lodge "Industry and Perseverance," No. 109, E.C. The latter was founded in A.D. 1716 and is the second and oldest lodge under the District Grand Lodge of Bengal; the former was constituted in A.D. 1772 and is the third oldest in order of precedence. Mr. Murray is also a member of the Royal Arch, Mark, and Rose Croix, degrees as well as a Knight Templar and a Knight of Malta.

Count S. DUNIN DE SOULIGOSTOSKWY is Inspector in India for the Société de l'Industrie de Napthe et du Commerce: A. Mantacheff & Company, Producers and Refiners of Kerosene Oil, with branches at Bombay and Karachi. He was born in Russia, educated in

Count S. D. DE SOULIGOSTOSKWY.

Austria, and subsequently followed Mercantile pursuits in the Caucasus and Asia Minor. He joined his present Company about 1886, coming out to India in 1899 as Manager for the Bombay branch, and in 1902 was appointed Inspector for India.

The "TAJ MAHAL PALACE" HOTEL, Bombay.—Splendidly situated overlooking the famous harbour of Western India the "Taj Mahal Hotel" has established a well-deserved reputation with travellers as one of the leading hotels of the world. Before the Parsee magnate Mr. J. N. Tata conceived the project of providing Bombay with a first class hotel, India could boast of no such establishment as could compare with those of other leading countries. Comparisons even with the hotels of the small neighbouring island of Ceylon were very much to the disadvantage of India. Mr. Tata had the genius to see that such an establishment could be carried on with success, and the result was the "Taj Mahal Hotel," complete in every detail that travellers are accustomed to find in the best establishments of Europe and America.

The hotel buildings form a fine specimen of architecture, quadrangular in form, surmounted by a noble dome 240 feet in height, the supports of which spring clear and uninterrupted from the ground floor and carry the grand staircase from floor to roof. The buildings stand upon two and a quarter acres of land, of which three-quarters of an acre are actually built upon. The premises comprise four hundred rooms in suites and single rooms. The ground floor being entirely devoted to business establishments. Here are the administrative offices of the hotel management and also special Post, Telegraph and Railway booking offices for the convenience of visitors. Here also are situated the Bar and Billiard Rooms, and the rest of this section is occupied by shops in which every requisite likely to be of use to travellers can be bought. For the convenience of residents three electric lifts are provided by which to reach the upper floors. The first floor is given up to the residential features of the establishment. A wide and deep verandah runs the whole length of one side of the building containing a 'winter' garden and lounge, standing over the entrance porch and facing the courtyard. This is a graceful structure of steel, filled with rich coloured glass. A second spacious verandah is situated on the east side, from which a fine view of the beautiful Bombay Harbour may be enjoyed. Between the two verandahs is the grand dining room with accommodation for some 300 guests. This great apartment is decorated in the Moorish style, and furnished

TAJ MAHAL HOTEL, EXTERIOR VIEW.

TAJ MAHAL HOTEL, DRAWING ROOM.

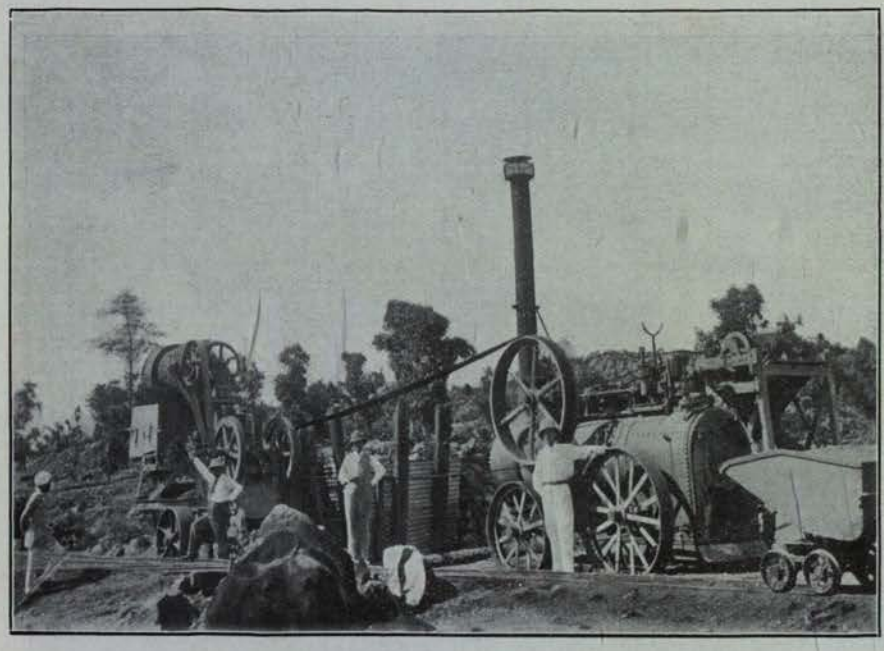
with the requisite number of small dining tables to enable guests to enjoy their meals in comfort. The east verandah leads to the Reading Room, well furnished with literature. Thence to the Moorish Room, and to the Ladies Drawing Room—a bright and dainty apartment. There is also upon this floor a Writing Room and a Private Dining Room where parties can be accommodated. The whole design of the floors is aimed at securing free ventilation and coolness. In the upper floors are situated the sleeping rooms, and the family suites in which it is possible to secure the utmost privacy.

For those who prefer Anglo-Indian arrangements, certain sets of rooms are provided with separate bath-room accommodation attached to them, for the rest there are complete ranges of highly modern bath-rooms available. In accordance with the most up-to-date ideas of construction, the kitchens are situated on the roof of the building, and are presided over by Maitre Talandrier from the Carlton Hotel, London, with four European Assistants. The fine arrangements of this department, with the skill of the chefs in charge, has given the Taj Mahal Hotel a deservedly high reputation for cookery. The Hotel is provided in every corner with electric lights and fans. There is a Laundry on the premises. The service is of the finest, being conducted by an European staff, assisted by Goanese waiters and domestics, than whom there are no finer servants in the world. The charges are suited to all conditions of travellers. The millionaire can get his money's worth, and the ordinary bird of passage is well provided for at extremely moderate rates.

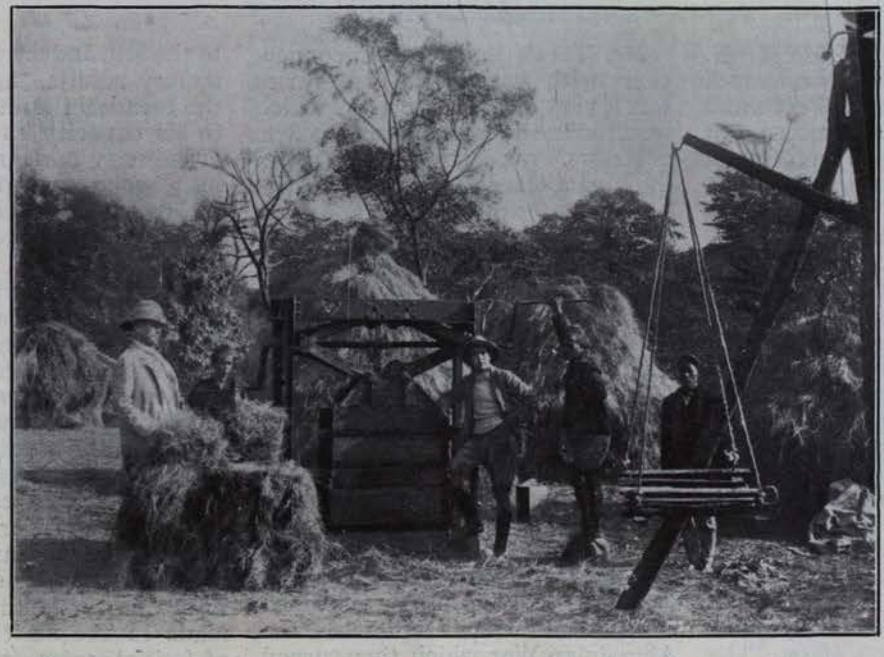
TAJ MAHAL HOTEL, DINING ROOM.

TAJ MAHAL HOTEL, VERANDAH.

Messrs. SMITH RODWELL & Co., Contractors and Railway Agents. Head Office, Bareilly. This firm was established in the year 1892 for the purpose of opening business on his own account. He took into partnership with him, Mr. E. H. Rodwell who had been for many years an Assistant in the same division of Messrs. Burn & Co. The first operation of the new firm was the taking over from Messrs. Buckle & Co., of the North Western Railway and Oudh and Rohilkand Railway Agencies at Mus-



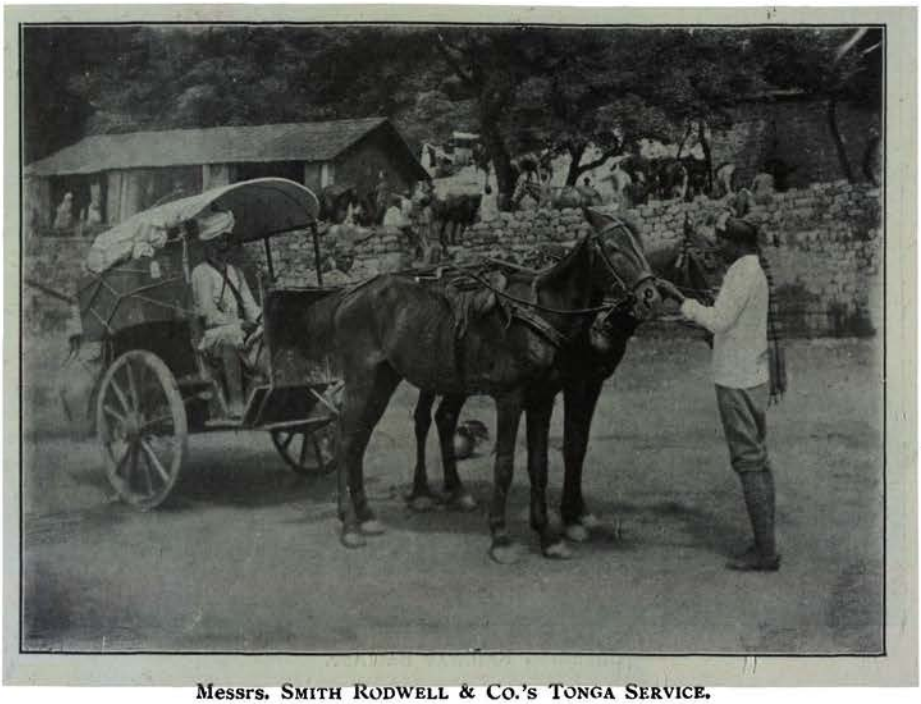
BREAKING RAILWAY BALLAST.



BALING FODDER.

by Mr. W. A. Smith who resigned a partnership in the L. C. division of Messrs. Burn & Co., Calcutta, soorie, Dehra and Chakrata. Messrs. Smith Rodwell & Co. then extended their business by taking over the

working of the Rohilkand and Kumaon Railway Agencies at Naini Tal, Ranikhet and Almora. The firm subsequently secured contracts for railway ballast from the Bengal and North-Western Railway, the Eastern Bengal State Railway and the East Indian Railway in Bengal, which they are still working, all the ballast being machine broken. Since the opening of the Dehra Railway their North Western Railway Agencies have been closed, as all goods come by the Oudh and Rohilkhand Railway. Messrs. Smith Rodwell & Co. are carting contractors for the Government Transport and Supply Department and Military Works Department. They run tonga services from Dehra to Chakrata, Kotedwara to Lansdowne, and Naini Tal Brewery to Ranikhet. They also carry the Mails from Dehra to Mussoorie by their tonga service. They are now working Railway agencies at Mussoorie, Chakrata and Lansdowne for the Oudh & Rohilkand Railway, and at Naini Tal, Ranikhet and Almora for the Rohilkand & Kumaon Railway. Besides these enterprises, Messrs. Smith Rodwell & Co. own large grass farms, and supply the Government Transport Department with baled fodder.



Messrs. SMITH RODWELL & CO.'S TONGA SERVICE.

The late Mr. JAMSETJI N. TATA was descended from a stock of Zoroastrians who left Persia and took refuge in Surat in the 7th Century to escape the oppression of the Mahomedan Conquerors. For 200 years they lived a life of absolute security, and it was only after they had tasted of the fruits of British rule and protection that the Parsees put forward those excellent attributes of energy and industry and acquired for themselves the wealth and influence they are worthy of and now rightly enjoy. Mr. Tata was brought over to Bombay at the age of 13 by his father from Naosari, where he was born in 1839. After his early school days he was placed in the Elphinstone College at the age of 16 and completed in that Institution a four years' course of study prior to entering his father's office. The seeds of his successful future were here sown, and that the harvest has been plentiful the industrial and intellectual progress of Bombay bears ample testimony.

Mr. Tata's first move in connection with commercial enterprise was a visit to China in 1859 which resulted in the founding of the firm of Messrs. Tata & Co., with branches in Japan, Hongkong, and Shanghai and later on at Paris and New York. Four years were spent in the land of the Celestial, and Mr. Tata returned to Bombay in 1863. Next came the desire to establish an Indian Bank in London, and he went over to England with this object in view in 1865. A financial crash in Bombay, however, prevented the accomplishment of this progress, and Mr. Tata remained in England for two years, adding to his store of business knowledge. On his return to India, the family fortune lost in the financial crisis, Mr. Tata and his father obtained contracts in connection with the Abyssinian War which they turned to good account and fully recouped the heavy loss they had sustained. With the reclamation of Back Bay, an enterprise which proved successful, Mr. Tata devoted himself to the Mill Industry with very satisfactory results, the Empress and the Swadeshi Mills bearing witness to his capacity as a great captain of industry and trade. Mr. Tata set a good example to employers of labour in his kindly regard for those who look to him for their daily sustenance. Speaking at the opening of a new spinning shed at the Nagpore Mills, a department which worked 74,924 spindles and 1,384 looms, he referred to a small pension scheme which had been introduced in connection with that Mill "for our workpeople who are entitled to a small increase of pay after 25 years' service and to a maximum pension of Rs. 5 a month after 30 years' service."

A remarkable episode in Mr. Tata's career is the firm stand he made in the matter of reduction of freight rates for yarn exports from Bombay to China and Japan. It was a struggle between Mr. Tata and the Nippon Yusen Kaisha Steamship Company on one side and on the other the Peninsular

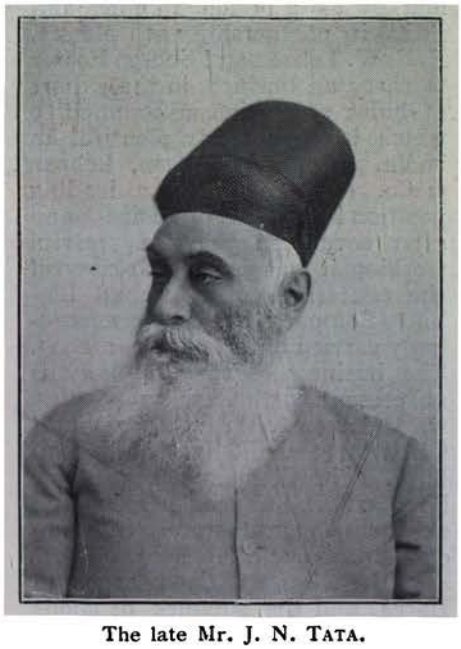
and Oriental Steam Navigation, The Austrian Lloyd's, and the Italian Rubbatino Company combined. The *Kaiser-i-Hind* thus described the situation:

The Nippon Yusen contracted with the Cotton Spinners Union who carry cotton and yarn at Rs. 13 per ton against the P. &. O. Rs. 17, whereupon the latter reduced their rate to the nominal sum of first Rs. 2 and subsequently to Re. 1 per ton, charges which they later on raised again on a par with those of their rival.

"Mr. Tata was a keen educationist and a disciple of higher education; he generously endowed a fund which enables youths of all castes to go to England for purposes of study, and which has been productive of great good. His Research University scheme is so well known that it would be superfluous to refer to it at length. Suffice it to say that the Institution will be a lasting monument to his great skill and attainments, and the landmark of the magnanimity of a man who expended his talents to the full sterling value for the benefits of the country at large."

"India lost a truly patriotic man who used the means that the country had given him for the country's good, and the Parsee community a man who raised its already high name among other communities still higher; one who was its great ornament and strength, its *præsidium et dulce dicus*."

"It is the irony of fate that Mr. Tata should have died just when one of the noblest of his enterprises, and one in which he ever betrayed the keenest interest, should be rapidly approaching completion. The Taj Mahal Hotel whose lofty dome and splendid facade dominate the harbour, is the creation of Mr. Tata's fertile brain; the solid magnificence with which it has been executed in every part is the fruit of his own far-sighted liberality. We should entirely misread Mr. Tata's character if we concluded that the Hotel was to him a mere commercial venture. A widely travelled man, and a man of cultivated taste, he could not fail to be impressed with the extraordinary deficiencies of the Indian hotel system, in Bombay no less than in every other part of the country. He saw that elsewhere hotels filled a very important part in the amenities of social life, and that more particularly in the complex society of the East they played a rôle which no other institution could fill. So he determined that Bombay should have a hotel second to none east of Suez, and that it should set an example which should react throughout India in removing one of the greatest hindrances to agreeable travel in this country. So he had the plans of his hotel drawn with the sole purpose of securing an entirely worthy building; he spared no expense in the raising of the magnificent superstructure; he equipped it with the latest modern appliances in the way of electric light, fans, lifts, and cold storage



The late Mr. J. N. TATA.

apparatus; and he placed at the head of it a "maitre d' hotel" of European reputation. This he did without looking for any immediate financial return; but content that he should be able to regard his handiwork from every point and find it good, that he should give his city something fully worthy of its architectural magnificence and its unique position as the gateway of India. For interest upon the huge sum he embarked in the enterprise, he was well content to wait. In none of his adventures was Mr. Tata's largeness of mind and wise liberality more conspicuous than in this, the creation of his old age; he has endowed the city with a hotel which will make the stranger linger within its gates, and which will prove of incalculable advantage to the dweller in the Presidency. There is something peculiarly saddening in the coincidence that the fixing of the keystone of the noble dome should have preceded by only a few days the death of the man who inspired it."

"In the later eighties Mr. Tata had an important share in experiments carried on in the Central Provinces in smelting iron ore with local coal. He was not, however, to set his hand to the plough and then turn back. Undeterred by official indifference and circumlocution he kept the project in mind, and referred to scientific experts some of the practical difficulties encountered by him. On the occasion of one of his recent visits to England, he mentioned the project in the course of conversation to Lord George Hamilton. The interest of the then Secretary of State was at once aroused, and he pressed Mr. Tata to take it up vigorously, and urged him to be mindful of the patriotic obligation he was under, as the most enterprising of Indian business men, to contribute in every way possible to the industrial development of the country. On returning to India Mr. Tata found that the obstruction or indifference of the secretariats had been replaced by not merely a readiness, but an eagerness to assist. He confidently believed that when the industry was organized, the Central Provinces would take rank as possessing the most valuable iron deposits in the world. It was estimated that on a capital of about a crore of rupees, an outturn of 300 tons of steel daily could be secured under the most unfavourable circumstances, and a much larger quantity, if possible difficulties were overcome. Mr. Tata also took steps to revive in the Chanda district of the Central Provinces the working of copper mines believed to have been abandoned a thousand years since. No time was too precious, no cost too great in his eyes to be spent in investigating thoroughly, and from all possible points of view, the conditions necessary to make a project successful,

and he has already spent a lakh and a half of rupees in proving his concessions in the Central Provinces."

Messrs. T. M. THADDEUS & CO., Produce Brokers, Calcutta. This house of business was established in

Mr. T. M. THADDEUS.

the year 1883, by Mr. Thaddeus Mesrope Thaddeus, in whose hands the management since remained. The firm is one of the oldest produce brokers in Calcutta and has been eminently successful, having one of the largest jute broking businesses at present carried on in India. Mr. Thaddeus is of Armenian parentage and was born in Calcutta. He is the son of the late Mr. Mesrope Thaddeus who came to Calcutta in the year 1832, and established himself as a merchant. Mr. T. M. Thaddeus began his business career as an Assistant in a Calcutta Mercantile firm at the age of 16, and received a thorough training in mercantile practice. He then joined Messrs. A. B. Shekleton & Co., who were freight brokers in a large way, and was in the management of their jute department for about three years. Upon the death of Mr. Shekleton he started business on his own account, but on the failure of the Oriental Bank his capital was jeopardised and he was practically compelled to begin life over again. At this juncture, he was largely assisted by Mr. W. R. Williamson of the firm of Messrs. Finlay, Muir & Co., and the late Mr. R. Steel of Messrs. R. Steel & Co. Mr. Thaddeus' connection with these firms has been continued for over 20 years. Mr. Thaddeus devotes his whole time to his business and is also the owner of considerable property in Calcutta. He married Miss Lizzie Arrakiel, niece of the Hon. Sir C. P. Chater of Hong-Kong, and has three daughters and a son.

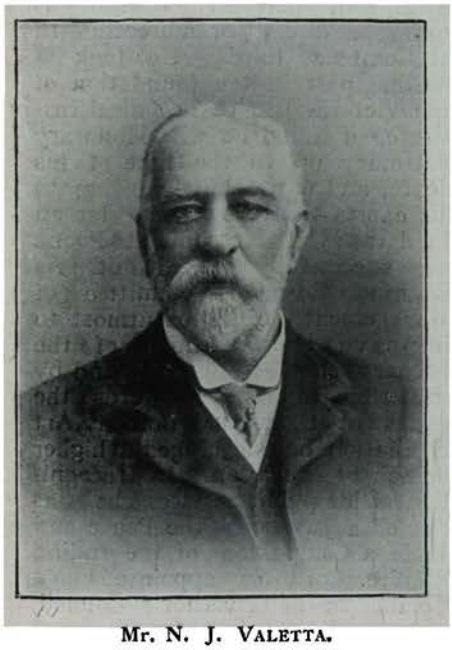
Messrs. THOMSON, LEHZEN & Co., Ld., Merchants, Calcutta.—This firm was established in the year 1888 by Mr. J. H. Thomson (who had previously had many years' experience in the Calcutta market as a broker in hides and skins) in partnership with Messrs. E. F. W. Lehzen and George Foster to carry on business in the export of hides and skins, a commodity which is particularly plentiful in India. Messrs. Thomson, Lehzen & Co. soon attained a leading position in this line of business and after seventeen years' successful working it was decided to convert the concern into a Limited Liability Company, which was accordingly carried out in the year 1905. The business of the Company is at present carried on by Messrs. O. Andersen & W. H. Thomson at Calcutta, and H. Barske at Hamburg. The Company does a very large export business in hides and skins with manufacturers throughout Europe and America. There are Branches at Cawnpore and Dacca, and the supplies of goods which they handle are drawn from all parts of India. Their large godowns and stores are situated in the Suburbs and are capable of storing great quantities of their commodities waiting for shipment. The Company is also large shippers of shellac and other products of India. There are over 1,000 operatives in the employ of the Company whose work is directed by a staff of eight Europeans. The Calcutta partners are both thoroughly conversant with their line of business, having many years' experience behind them.

Messrs. TURNER, MORRISON & Co., Bombay. The partners in the firm are Messrs. A. M. Turner, C. E. Smyth, J. M. G. Prophit and W. K. Dowding. The firm have branches in London and Liverpool (Messrs. Turner & Co. the corresponding firms), Calcutta, head office for India, Bombay and Chittagong.

Previous to 1887 Messrs. Turner, Morrison & Co. had no firm in Bombay, and the Calcutta Office merely kept a representative to look after the interests of the Asiatic Steam Navigation Company, Limited, of which they are the Managing Agents. In 1887 the late Mr. G. H. Morrison of Messrs. Turner & Co., Liverpool, came out to India and opened a Branch Office in Bombay, the late Mr. R.C. Lees, who was brought across from the Calcutta Office, being appointed the first Manager of the new firm. Besides acting as Agents for the Asiatic Steam Navigation Company the firm do a large chartering business fixing steamers to Europe, the Far East, and for country employment. They also do a fairly large trade in coal, sugar, etc. The present Manager is Mr. J. S. Wardlaw Milne, who was appointed in 1902. He represents the firm in the Bombay Chamber of Commerce. They are Agents for the Cossipore Sugar Works, the Asiatic Steam Navigation Company, Limited, the Retriever Flotilla Company, Limited, the Shalimar Works, Limited., the Shalimar Paint, Colour and Varnish Company, Limited, and Lodna Colliery Company, Limited. They are also Agents for the Gourepore Company, Limited, the Thames and Mersey Marine Insurance Company, Limited, the Australian Alliance Assurance Co., and City of Glasgow Life Assurance Company.

Messrs. N. J. VALETTA & CO., Jute Brokers, Calcutta. This firm was established in the year 1874 by Mr. Nicholas John Valetta, who carried it on alone for eleven years till in the year 1885, he was joined in partnership by his brother Mr. C. J. Valetta, and the two brothers have carried it on together ever since. The brothers Valetta are also interested in the firm of Zeffo & Co., with Mr. J. M. Rodocanachi, as agent of the Union Insurance Co. of Paris and freight brokers, Messrs. Valetta & Co. are agents for the Chitpore Hydraulic Pressing Co., Ld.

Nicholas John Valetta, senior partner of Valetta & Co., is a Greek by nationality and came from the Island of Syra close to the mainland



Mr. N. J. VALETTA.

of his native country. In 1865, he came to Calcutta and settled as one of the resident managers of Argenti Sechiari & Co., Merchants. This firm went into liquidation on the death of the principal partner in London, when Mr. Valetta started on his own account. Mr. Valetta and his brother, Mr. C. J. Valetta, are the sons of the late Dr. John N. Valetta, LL.D., Cambridge, D.C.L., London. He was a member of the Bengal Chamber of Commerce, and served many years ago on the Committee of the Chamber and on the Boards of various Companies. Both brothers Valetta were educated in Greece.

Mr. TRIBHOVANDAS VURJEVANDAS, J.P., of Bombay, Honorary Presidency Magistrate; Director of the Bank of Bombay; Director of the Ripon Manufacturing Company, Limited, the Colaba Land and Mill Company, Limited, and of the Emperor Edward Spinning and Manufacturing Company, Limited; President of the Arya Sudharmodaya Sabha and the Javerilal Umiashankar Yajnik Bhuleswar Library; Member of the Bombay Presidency Association and formerly a member of the Branch, Royal Asiatic Society; Trustee of the late Jagannath Shunkershet Charitable Dispensary, the Bombay Native Dispensary and several other charitable institutions; also headman of the Kapol Bania Community of Bombay for several years. Mr. Tribhovandas, the eldest son of the well-known Bombay citizen, the late Mr. Vurjevandas Madhowdas, was born in Bombay on the 22nd day of March 1848. He belongs to the Rupji Dhunji family, one of the few historic and distinguished families which marked Bombay by their opulence and enterprise so far back as the seventeenth century. His ancestors came from Ghogla, in Kathiawar, to settle in Bombay more than two hundred years ago. The early education of Mr. Tribhovandas was carried on in his vernacular Gujarati, but later he attended the Elphinstone High School, which he left in 1869 with excellent command of English. His business training was acquired in the employ of Messrs. W. & A. Graham & Co., Merchants of Bombay, in the piece-goods department of that firm, where he gained the high esteem of its different heads, including Sir Frank Forbes Adam, KT., C.I.E., until recently President of the Manchester Chamber of Commerce. Mr. Tribhovandas has always been prominent in charitable and religious works affecting his own and other communities. As far back as 1875, with the object of diffusing religious knowledge amongst Hindus, he established the "Arya Sudharmodaya Sabha," of which he is now the President. For the promotion of this institution the services of the famous and learned Pandit Gatoolalaji of Bombay were secured. The services of this learned man were so highly satisfactory, that three years later Mr. Tribhovandas convened a meeting of influential Hindu gentlemen, to consider the best mode of publicly recognizing the disinterested labours of the learned Pandit, with the result that a fund was raised, which admitted of a presentation of Rs. 8,000 with an address to the Pandit, a balance of Rs. 10,000 being invested in Bombay Port Trust bonds for his benefit. In promoting this fund, Mr. Tribhovandas showed a true desire to afford public encouragement to the cause of education. In 1888 Mr. Tribhovandas was appointed a Justice of the Peace by Government. On the retirement in 1883 of his uncle, Seth Gopaldas Madhovdas, Mr. Tribhovandas was unanimously appointed one of the headmen of the Kapol Bania community of Bombay, and was at the same time presented with an address of honour. This position he retained till 1905, when he resigned. In 1878, Mr. Tribhovandas was elected a Councillor of the Bombay Municipal Corporation, and was re-elected from time to time to this office till his retirement in 1898. During this period of 18 years he keenly watched the interests of the rate-payers. In 1881, Mr. Tribhovandas became a member of the firm of Messrs. Vurjevandas Madhowdas & Co., and in 1893 the name of the firm was changed to Messrs. Vurjevandas Madhowdas & Sons. In 1884, Mr. Tribhovandas established a charitable fund called the Kapol Nirashirt Fund, for the maintenance and education of destitute members of his community. To this fund he contributed a large sum of money, and under his fostering care it has now reached a total of about Rs. 30,000. Mr. Tribhovandas has frequently acted as Honorary Secretary and Treasurer to funds raised for the recognition of the public services

Mr. T. VURJEVANDAS.

rendered by distinguished Bombay citizens, such as the late Sir Dinsha Maneckji Petit, Bart.; Mr. Blaney, C.I.E., etc., etc.. and also to the memo-

rial in honour of the late Maharaja of Bhavnagar. In 1893, at a meeting presided over by Lord Harris, then Governor of Bombay, Mr. Tribhovandas was elected a Joint Honorary Secretary to a fund raised for the relief of the sufferers in the Bombay riots. In 1897, Mr. Tribhovandas founded an institution to the memory of his revered father, the late Seth Vurjevandas Madhowdas, in aid of the higher education of poor and deserving members of the Kapol Bania community. The funds of the institution known as the Seth Vurjevandas Madhowdas Kapol boarding school, under his judicious management, have now augmented to about Rs. 60,000.

In 1905, the Government of Bombay was pleased to appoint Mr. Tribhovandas, Honorary Presidency Magistrate.

The late Hon'ble Mr. NOWROSJEE NUSSERWANJEE WADIA was born in 1849, a member of a notable family of Bombay ship-builders, who during the 18th and 19th centuries constructed for the East India Company and for Government no fewer than 335 large vessels. At eleven years of age Mr. Nowrosjee went to England and began school life at Liverpool under Drs. Leedam and Carter. He passed first class in the Cambridge local examinations, receiving the degree of Associate of Arts, and returned to Bombay in 1866. The infant mill industry of Bombay was at that time receiving a great impetus through the American Civil War, and Mr. N. N. Wadia joined his father at the Royal (now the Dinshaw Petit) Mills, and soon afterwards became manager of the Albert Mill. He next devoted his attention to paper, designing and constructing the machinery for its manufacture himself, but labour difficulties made it advisable to abandon the project, and he became an Engineer in the Locomotive Department of the Sind, Punjab and Delhi Railway. Shortly afterwards a serious accident occurred in the Manockjee Petit Mill, involving the destruction of the engines, at a loss of nearly three lakhs of rupees. Wadia reported thereon, and his opinion differed so radically from that of other local engineers that the advice of experts was sought. These supported Mr. Wadia's views, on which Sir Dinshaw Petit persuaded him to accept, in 1874, sole charge of the mills. Under his charge the mills prospered so abundantly that from time to time others were added, till they formed a large group, and in 1895 he started a cotton spinning mill of which Nowrosjee Wadia & Sons became agents, and followed this up with the Century Mills, which combined spinning and weaving. A few years later he established a dyeing factory at Mahim. Mr. Wadia's high reputation as an engineer was greatly enhanced by his designing and

The late Hon. Mr. N. N. WADIA.

erecting one of the largest engines in the world at the Manockjee Petit Mills at Tardeo, a work which has amply justified itself and been extensively copied. Mr. Wadia was elected an Associate Member of the Institution of Civil Engineers and a Member of the Institute of Mechanical Engineers. He represented the Millowners' Association, of which he was Deputy Chairman, at the International Congress of Hygiene, and was one of a deputation sent to Calcutta in 1896 to wait upon Sir James Westland, the Finance Minister, to urge objections to the Cotton Duties Bill, which had just been introduced.

Of the 80 mills in the island of Bombay, employing 80,000 hands, it is said that Mr. Wadia was connected directly or indirectly with at least a third. He took a leading part in the foundation of the Victoria Jubilee Technical Institute, of which he was Honorary Secretary up to the time of his death, and it was largely owing to his efforts that the scheme for an Industrial Museum at Poona was successfully carried out. As Chairman of the Committee of Management, he did his utmost to improve the condition of the primary schools in Bombay, and by subscribing liberally towards the prizes at the annual Bombay Art Exhibition he encouraged a higher branch of education. In recognition of his public services he was elected a Justice of the Peace and made a Companion of the Indian Empire. Lord Reay appointed him a Member of the Governor's Council, and on the expiry of the usual term of two years he was renominated by Lord Harris, and again appointed in 1895 by Lord Sandhurst, thus retaining his seat for a period of eight consecutive years.

He was a trustee of the Parsi Panchayat and of the Sir Jamsetji Jijibhai Benevolent Institution, a promoter of the Parsi Death Fund, and, with the help of Mr. Framji Dinshaw Petit, was instrumental in launching a scheme for the housing of poor Parsis. From 1896 plague and famine relief occupied his earnest attention, and he obtained sanction to maintain a fever hospital from the funds of the Punchayat, besides which he personally provided free dispensaries at Bombay and Khandall. He assisted in founding and managing the Leper Asylum at Bombay, and his generosity, supplemented by that of his widow, has provided the recently completed Wadia Home for Nurses in connection with the J. J. Hospital.

It was no doubt the exactions of his many interests in life which finally broke down Mr. Wadia's health, and on medical advice he sought rest and health in England. A year's sojourn there effected no improvement however, and he died

at Bournemouth on December 19th, 1899, leaving a widow and three sons. His record as a technical specialist may well be described as unique in India.

Mr. NOWROJEE MANECKJEE WADIA, C.I.E.—This gentleman comes from the well-known Parsee family of that name. The Wadias during the eighteenth and the early half of the nineteenth century were settled at Bombay as shipbuilders on no mean scale at a time when the countries east of Suez were undistinguished by any skill in the art. The founder of the family and great grandfather of the subject of this sketch, Seth Lowjee Nusserwanjee Wadia, who was born at Surat in the year 1710, had a peculiar bent towards the shipwright's craft, and acquired such knowledge and skill in the same that his work came to be held in equal esteem with the best examples turned out in Europe. The Parsee-built ships of Bombay acquired a great reputation even with the maritime English nation. During the century and more that Seth Lowjee Nusserwanjee Wadia and his descendants carried on the building of ships at Bombay, the business of designing and constructing the vessels built remained entirely in native hands. The original Wadia was thus the first to demonstrate that work on European lines could be efficiently carried out by Asiatics without any assistance except from their own brains and hands. During the years they practised the shipwright's art, the Wadias produced some 350 men-of-war and other vessels. The men-of-war were constructed to the orders of the Government of India and gave complete satisfaction for their stout and seaworthy qualities, and the firm were awarded not only a gold medal but an extensive estate at Salsette near Bombay, which remains in the family to this day. Seth Nusserwanjee Wadia in return for services rendered by him to the French Government was decorated with the Legion of Honour by Napoleon Bonaparte. The grandfather of Mr. Nowrojee N. Wadia inherited his father's skill and was a prominent man of his time. But at this period the family had ceased to devote their attention entirely to shipbuilding. They had entered commercial life and took up business as brokers, and in negotiating loans for native princes and others. For his valuable services as the agent of the French Government in India Mr. Jehangeer Wadia was presented with a gold medal by Louis Phillippe. On his death without male issue, the shipbuilding craft seems to have been abandoned by the family for want of a son inheriting the genius of the first Wadia and his son. The splendid fortune left by Mr. Jehangeer Wadia passed to his daughter, Bai Mollibai Wadia, a very famous lady of her time. She continued the commercial side of the family's business and added considerably to the original wealth transmitted to her, owing to her great business capacity. She unfortunately lost her husband at the age of 26 and for the next 60 years devoted herself to a life of widowhood and good works. Bai Mollibai was the mother of the present representative of the family, Mr. Nowrojee M. Wadia. The habit of charity which she practised during her long life has descended to her son. During her lifetime Bai Mollibai gave away to deserving works no less a sum than twenty-six lakhs of rupees. Her public charities included Rs. 4,00,000 for the hospital at Bombay which bears her name: Rs. 1,25,000 for the fire temple at Udwada: and Rs. 1,33,000 to the Petit Orphanage. Despite these beneficences, owing to his mother's great business qualities, Mr. Nowrojee M. Wadia inherited at her death, which took place in 1897, one of the greatest fortunes in India. He received a sound training in vernacular and English, and established with his brother, Jehangeer N. Wadia (since deceased) a firm under that name which entered into extensive commercial dealings with Europe. In 1863 Mr. Nowrojee Wadia travelled in Europe, and was personally received by Emperor Napoleon III. The "Share mania" of 1864 hit the firm of J. Nowrojee & Co. hardly. In 1867 Mr. Nowrojee Wadia closed the business and devoted himself to other pursuits, including public business. He was appointed a Justice of the Peace in 1873, and the Government recognized his lifetime of good works with the honour of a Companionship of the Indian Empire. Mr. Nowrojee Wadia was present with Sir Jamsetjee Jeejeebhoy at the Imperial Assemblage at Delhi on the assumption of the title of Empress by Queen Victoria. In munificence Mr. Nowrojee Wadia, since his accession to the headship of the family, has been noted for his benefactions, which in two and a half years after his mother's death amounted to over forty-two thousand rupees. Mr. Wadia is known for his charities, but time alone can show how many have cause to be grateful to this Parsee philanthropist and descendant of the famous shipwright.

Mr. DINSHAW EDULJI WACHA, J.P., was born in Bombay in 1844, and educated at Elphinstone College, and has from

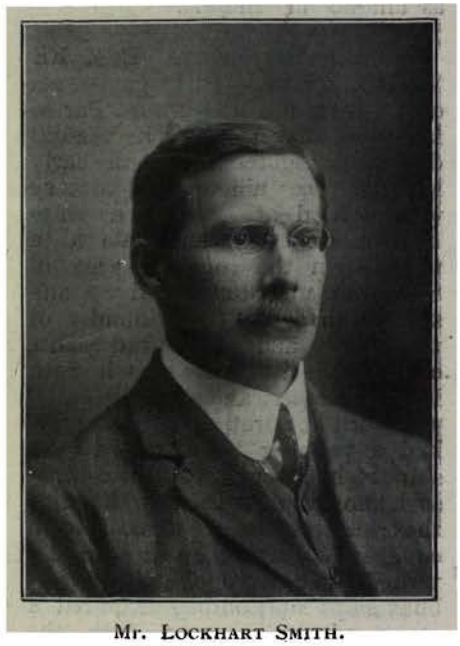
Mr. D. E. WACHA.

his youth devoted great energy and much time to the furtherance of local self-government. When the first Municipal Act was passed in 1865, Mr. Wacha made a close study of it and of the debates thereupon; afterwards, as an assistant in the firm of Messrs. Brodie & Wilson, Public Accountants, the first Municipal Auditors, he had an opportunity, of which he took full advantage, of studying municipal finance and the practical working of the Act. As a trenchant and well-informed

critic of municipal affairs, Mr. Wacha made himself felt through the medium of several newspapers, notably the *Indian Spectator*, in the eighties, but it was not until 1889 that he became a member of the Corporation, being elected thereto by the Fort Ward. From the time when Sir Richard Temple formed the Drainage Commission, Mr. Wacha has made city drainage a special study, and speaks with authority when new schemes are being discussed by the Corporation. As a specialist in statistics and all branches of finance and economics, Mr. Wacha carries on his work far beyond municipal bounds, and his speeches and writings in many an Indian paper, and on the public platform are well known. He is a whole-hearted supporter of the Indian National Congress, of which he has been the Joint General Secretary for the last twelve years, and presided at its sessions of 1901 in Calcutta, the same year during which he was President of the Corporation. He is also a member of the Improvement Trust, and is Honorary Secretary of the Bombay Presidency Association. Mr. Wacha has been in the cotton industry for thirty years and represents one of the foremost firms of mill agents in Bombay. He has been for eighteen years an active member of the Committee of the Bombay Mill Owners' Association, and his many thoughtful and useful speeches at the Annual General Meeting bear ample testimony to his wide knowledge of industrial and commercial economics and statistics.

Messrs. WILLIAMSON, MAGOR & CO., Agents and Merchants, No. 4, Mangoe Lane, Calcutta, are one of the most prominent of the several firms that have grown with the rise of the Indian Tea Industry. Founded originally in the year 1869 by Messrs. J. H. Williamson and R. B. Magor, with offices at that time at No. 7, New China Bazaar Street, from the first, with their London Correspondents, Messrs. George Williamson & Co., they held considerable interests in the then undeveloped industry of Tea planting. It is to firms such as the one under notice that the success of the great East Indian staple is due With the extension of Tea their business as agents for Tea Companies and Estates grew rapidly, and the firm soon removed to larger premises first at No. 3, Mangoe Lane, and again in 1875 to their present premises at No. 4, in the same locality; and the firm still stands as a typical Indian Agency House of the best type. They have other interests as Agents for Coal and Insurance Companies, and machinery for tea and other manufacturers. Mr. G. G. Anderson, who was till recently the doyen of the Calcutta House, joined the firm in 1874, his previous experience having been gained as a planter in Ceylon. He retired in 1903. Mr. A. G. Watson became a member in 1875 after years of experience as a Tea Planter. He joined the London House in 1895. Mr. J. H. Williamson, one of the founders, retired from Calcutta in 1875, and Mr. R. B. Magor acted as Managing Partner in Calcutta till he joined the London firm in 1884. Messrs. J. H. Williamson and A. G. Watson are both now deceased. The present partners in Calcutta are Messrs. Lockhart Smith, P. L. Williamson and S. G. Anderson, and the London firm of George Williamson & Co. is represented by Messrs. R. P. Magor, Robert Lyell and Richard K. Magor.

Mr. LOCKHART SMITH, of Messrs. Williamson, Magor & Co., Calcutta, was born in the year 1866 at Findhorn, Scotland, and was educated at Aberdeen. On completing his education, he at first turned his attention to the study of law, reading for two years in the Chambers of an Advocate in Aberdeen, but in August 1884 he relinquished his studies in favour of a commercial career, and accepted an appointment in the office of Messrs. George Williamson & Co., of London. His connection with the London firm lasted five years, when he came to India, joining their Calcutta house, Messrs. Williamson, Magor & Co., in October 1889, of which he is now the senior partner. Mr. Lockhart Smith is an authority on Tea in Bengal, having made a special study of Indian tea affairs, and throughout his business career has been closely connected with this great industry, his firm having very extensive connections, as Managing Agents and Agents, with many Estates and Companies engaged in the cultivation and production of the chief products of Assam, Cachar and other Tea Districts. He was Chairman of the Committee of the Calcutta



Mr. LOCKHART SMITH.

Tea Traders' Association for many years, and in 1902 and 1904 and in 1905 became Chairman of the Indian Tea Association Committee, his intimate knowledge of the trade eminently fitting him for this position.

Mr. ROBERT LYELL WILLIAMSON, Partner, Williamson,

Mr. R. L. WILLIAMSON.

Magor & Co., Merchants and Agents, Calcutta, and of George Williamson & Co., Merchants and Agents, London, was born at Calcutta in the year 1874, and proceeded home for his education, which he received at Clifton College. His first business training was in the Tea Broking firm of William, James, and Henry Thompson of Mincing Lane, London, with whom he remained for two years. Having completed his preliminary training in tea he was appointed as Assistant to the Attareekhat Tea Company, Ld., and came out to Assam in the year 1894 and remained till 1896, when he was invalided home as the result of having been mauled by a bear while out shooting. He returned to India in 1898 to join his present firm of Williamson, Magor & Co., as Assistant. He worked his way up to a partnership which was granted him in 1904.

Messrs. WORMAN & CO., Merchants of 10, Meadows Street, Bombay, are a young firm, having been established there as recently as 1903, with offices at Hamburg, London, Manchester, Milan, Lyons, New York and Barcelona. They deal chiefly in imports of piece-goods, metals, etc., and in export of produce. Their Manager at Bombay is Mr. Emil Schumacher who was born in Germany and came out to take up the management in the year the business was started. Mr. Schumacher was educated at Hamburg and received his commercial education in one of the largest import and export firms in Hamburg.

The YOKOHAMA SPECIE BANK, Ltd., Bombay. We are often reminded that in spite of her great economic strides Japan is as yet a poor country; but since she has adopted Western methods in so many things she has shown not only a tendency to rapidly acquire wealth by her energy and enterprise but a remarkable capacity for dealing with it in the best of modern methods. During the last half century banking has made quite unprecedented strides, and the most noteworthy concern devoted to finance is the Yokohama Specie Bank, Ltd. The Bank was originally started under the provisions of the National Bank Regulations on February 28th, 1880, but as, in addition to transacting general banking business, it had the special object of acting as an organ to the country's foreign trade, devoting particular attention to the stable adjustment of foreign exchange, and was besides deputed to manage, under official orders, the foreign financial operations of the Imperial Government, a special law entitled the Yokohama Specie Bank Regulations was passed on July 6th, 1887, as being more in accordance with the scope of its operations.

The Bank's financial history is an extraordinary one. It started with a capital of three million yen, divided into 30,000 shares of 100 yen each.

Mr. K. KODAMA.

Seven years later, at an extraordinary general meeting, on March 30th, 1887, it was decided to double the capital, and with the approval of the Finance Secretary 30,000 additional shares were issued. The same thing was repeated on March 10th, 1896, and the capital was raised to twelve million yen; and yet again, on September 9th, 1899, it was decided to obtain the Finance Minister's assent to a third duplication of the Bank's capital, which now accordingly stands at 24,000,000 yen. These successive increases were all necessitated by the continuous expansion of the Bank's business operations. From the beginning the Bank has paid very handsome dividends, such as 15½ per cent with bonus of 20 per cent for the first half-year of 1898, and 25 per cent for the second half-year of 1899. Besides this, the reserve fund amounts to more than half the amount of the paid-up capital. It is noteworthy that the splendid building in Yokohama, begun in 1899 and finished in 1904, was built entirely according to the designs and under the supervision of Dr. Y. Tsumaki, while the workmen engaged were mostly in the Bank's regular employ, only a few special pieces of work being given to outside agency. In the same way granite, timber, marble, and all materials employed were indigenous products, only certain glass and iron ware being imported.

The Head Office of the Bank is located at Yokohama, Japan, with Branches at the following places:—

JAPAN.

Tokio.	Kobe.	Osaka.	Nagasaki.

ABROAD.

London.	Honolulu.	Newchwang.	Tairen.
Lyons.	Chefoo.	Peking.	Tieling.
New York.	Hong Kong.	Port Arthur.	Tientsin.
San Francisco.	Mukden.	Shanghai.	Bombay.

The Bank has correspondents in all important commercial centres at home and abroad, the number of the corresponding Banks being now over 250.

The Bombay Branch was opened for business on the 20th December 1894 and is doing a large business, more especially in financing the cotton exports to Japan. Its present Manager is Mr. K. Kodama.

Mr. WILLIAM ROBERT YULE, Manager of the Eastern Branch of the Manchester Assurance Company, which Company has been lately amalgamated with the Atlas Assurance Company, Ltd., of London, was born in the year 1868 at Peterhead, Aberdeenshire, Scotland. He was for some years educated at Dulwich College, and after finishing his education entered the Office of Messrs. Gellately, Hankey, Sewell & Co., London. In 1886 he came out to India and joined the firm of Messrs. Finlay, Muir & Co. as an Assistant. He remained with them for nine years, and during the last few years of his connection with this firm held charge of their Insurance Department, going home on furlough in 1895.

In 1896 he returned to India as Assistant Manager of the Manchester

Mr. W. R. YULE.

Assurance Co. for the East, at the same time entering the service of Messrs. Jardine, Skinner & Co. as Assistant Manager of their Insurance Department, and rising to his present position of Manager in 1899, when his predecessor retired from India.

Mr. Yule is also Manager and Underwriter of the Triton Insurance Company, Ltd., Fire and Marine, which Company is under the general management of Messrs. Jardine, Skinner & Co. He is a Member of the Committee of the Marine Insurance Association of Calcutta, and in 1905 was elected Deputy Chairman, and in 1906 Chairman, of the Calcutta Fire Insurance Association.

Messrs. ALEXANDER YOUNG & CO., Engineers and Merchants, 29, Pollock Street, Calcutta, and London. The firm was originally established in Glasgow some twenty years ago by Mr. Alexander Young, in whose hand the conduct of the business has remained ever since. As the firm rapidly progressed in importance, an office was opened in London, and some ten years ago another office was established at Birmingham. London is now the Head Office. As business with the East advanced in volume, it was found necessary to establish an office in Calcutta, which was accordingly done in the year 1905. The business of the firm is that of buying agents in Glasgow, London, and Birmingham for railways, dock-yards, shipbuilders, mill and mining concerns throughout the world. They carry large stocks of goods in all the principal ports in the East, and for these and the other requisites they deal in, they issue very finely got up descriptive catalogues. They have a considerable reputation for oil engines in which they do a large business. The Hornsby oil engine exhibited by the firm at the Bombay Industrial Exhibition, 1905, was awarded a gold medal first prize. Lancashire and Cornish boilers and steam engines form another of the specialities which they handle in large quantities. Their stocks permit them to supply any kind of machinery.

ADDENDA.

ANDERSON & Co., JAMES, page 249. Since the notice was printed, Mr. Ezekiel A. Gubboy has assumed charge of the House, owing to the lamented death of his father.

BANERJEE, SIR GOOROO DAS, page 143, col. 3, line 18, *add* "M.A., D.L."

BIGNELL, R. A. D'O., deceased.

BURKILL, J. HENRY, I.C.S., page 147, col. 3, last line. *For* 1891 *read* 1896.

DENTITH, A. W., I.C.S., page 153, col. 2, line 20, *add* J.P.; 25th line, *add* "Cambridge Scholar and Prizeman;" *add at end* "Master of Lodge Concordia, Calcutta, No. 3102 E.C."

FERGUSON, J. C., I.C.S., page 156, col. 2. line 11. *After* "India" *read* "is the eldest son of the late James Ferguson, F.R.C.S., of Lincoln House, Richmond, Surrey" and *add* "married in 1904, Muriel Elizabeth Gardyne, elder daughter of the late Dr. William Anderson, of Hallyards, Peebleshire, and the Little Green, Richmond, Surrey. Is Lieutenant in the Naini Tal Volunteer Rifles and Honorary Secretary of the Simla Amateur Dramatic Society."

GUPTA, The Hon'ble Mr. Krishna Govinda, page 163, col. 2, 3rd last line. After "a Member of the Bengal Council" *add* "In the following year he was confirmed in the Board and was deputed to serve on the Indian Excise Committee."

HALLIDAY, F. L., page 164, is now F. L. Halliday, M.V.O.

HEWETT, J. P., Hon'ble, page 167, is now Hon'ble Sir J. P. Hewett, K.C.S.I., Lieutenant-Governor of the United Provinces.

INGLIS, W. A., I.C.S., page 172, col. 1, line 19. *For* Roads and Buildings Branch, *read* Irrigation Branch.

ISMAY, S. M., Hon'ble, C.S.I., has now retired.

KENNEDY, R. G., page 175, is now R. G. Kennedy, C.I.E.

LATOUCHE, Sir D., retired on the 1st January 1907, and was succeeded by Sir J. P. Hewett.

LESLIE, F. M., page 215, col. 2, line 31. *For* 1893 *read* 1892.

LUCKMAN, Rev. W. A. G., page 179, col. 2, line 9. *Add* "and was appointed Officiating Archdeacon of Calcutta, May 1906."

MACFARLANE, J., page 180. Mr. Macfarlane died in London on the 5th December 1906 as the result of an operation.

MACPHERSON, J. M., page 180, is now J. M. Macpherson, C.S.I.

MITRA, The Hon'ble Mr. Justice S. C., page 185, col. 1, line 33. *For* Panisthola *read* Paineshola; col. 2, line 27, *add* "K.C.S.I."; line 51, *for* ESHARA *read* ISWAR; *add at end* "Mr. Mitra has collected and published with annotations, the songs of one of the greatest of the ancient poets of Mithila: this being the first time these songs have been published in a collected form.

He also edited and added an Historical Preface, the Kyastha Karika (Genealogical Tables) of all Kyastha families of one section of Bengal."

MITRA, RAI SAHEB, B. M., page 185, col. 1, line 13. *Add* "the degree of Bachelor of Engineering standing first in the order of merit, and obtaining a gold medal."

OLDHAM, C. E. A. W., I.C.S., page 189, col. 3. *Add at end* "appointed Director-General of Agriculture in April 1906."

OUNG, Mr. MOUNG HLA, page 190. Mr. Oung died in Calcutta on the 23rd July 1906.

PANIOTY, Lt.-Col., page 217, col. 3, line 23. *For* Colonel *read* Lieut.-Colonel.

PRIESTLEY, Mr. N. G., page 193, col. 3, line 13. *Add* "Mr. Priestley officiated as Director of Railway Traffic during the absence of the permanent incumbent;" page 194, col. 1, line 2, *add* "in March 1906, Mr. Priestley was appointed Agent of the South Indian Railway, which appointment he now fills;" page 194, col. 1, line 16, *add* "he is Honorary Colonel of the South Indian Railway Volunteers."

RAMPINI, Hon'ble Mr. Justice R. F., page 194, col. 2, line 22. *For* Senior Member of the Civil Service in India, *read* Second Senior Member.

RISLEY, Mr. H. H., I.C.S., page 196, col. 3, was awarded the K.C.I.E. on 1st January 1907.

ADDENDA.

Photographs received too late for insertion in the body of the work.

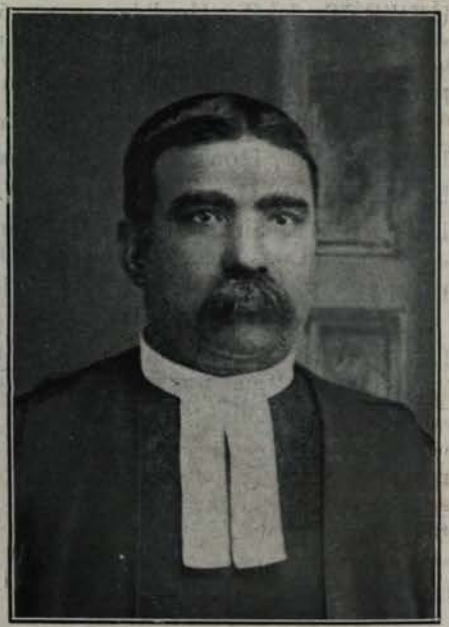
Mr. E. R. JARDINE.
See Page 174.

Mr. J. COUTTS.
See Page 254.

Col. R. MACRAE, M.B., I.M.S.
See Page 181.

Mr. KALI NATH MITTER, C.I.E.
See Page 215.

Mr. N. M. WADIA.
See Page 397.



The Hon'ble Dr. ASHUTOSH MOOKERJEE, LL.D.
See Page 187.

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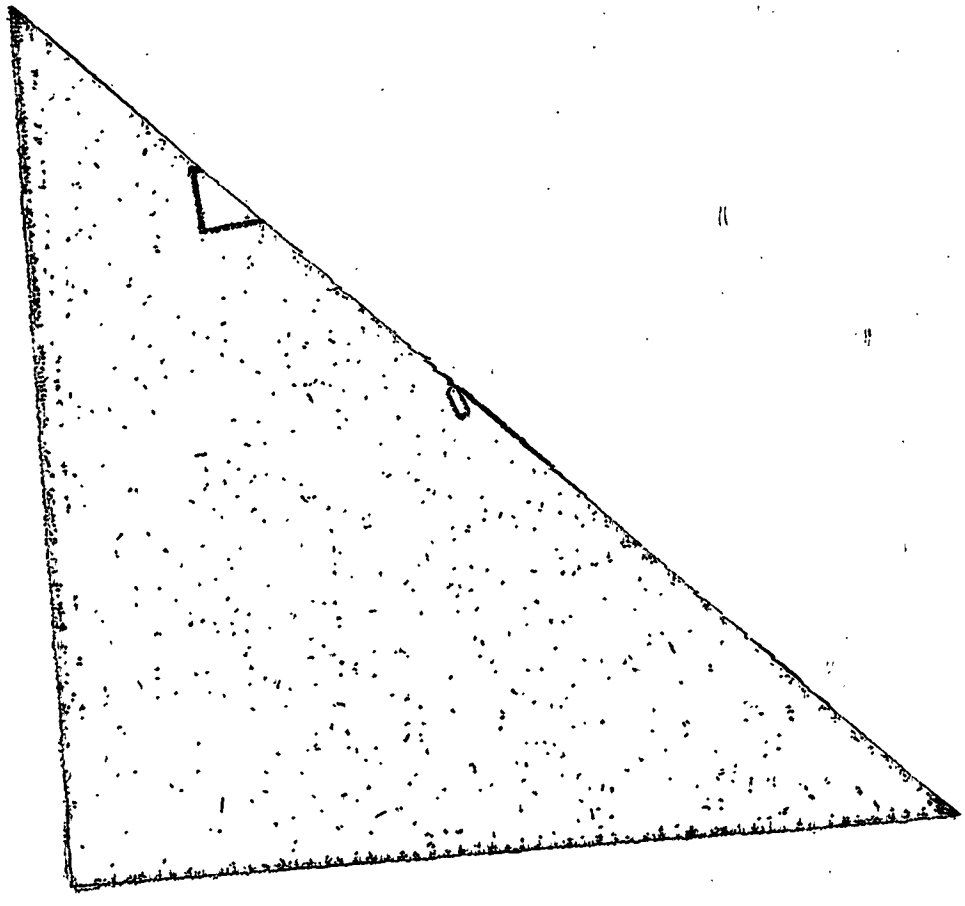

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